CONTRACT DRAWINGS FOR:

WASTE WATER TREATMENT PLANT IMPROVEMENTS

WENATCHEE PROJECT: 0913 - WWTP ODOR CONTROL, VISUAL MITIGATION AND SCREENING IMPROVEMENT

WENATCHEE, WASHINGTON
APRIL 2014

City of Wenatchee

RECORD DRAWINGS

INDEX OF DRAWINGS:

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
1-800-424-5555
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HDR
HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	B. DUDZIK
DRAWN	B. LILLY
CHECKED	J. KOCH
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

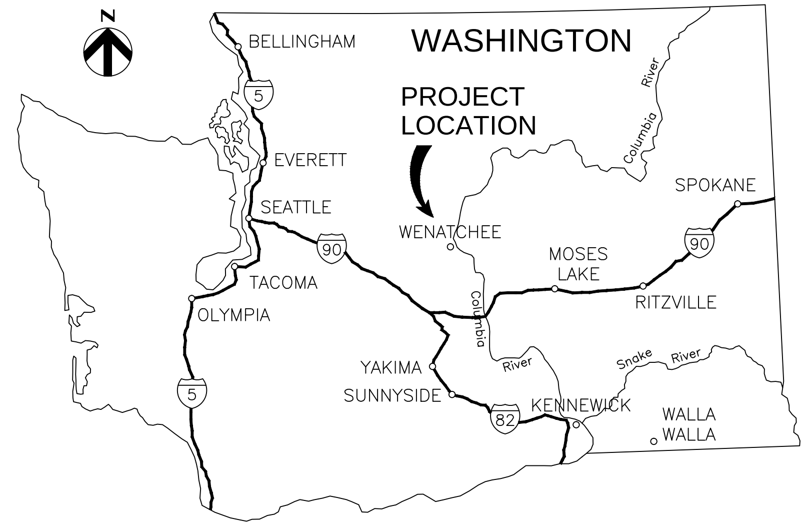
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL COVER SHEET AND DRAWING INDEX

0 1" 2"

FILENAME	000G-01.dwg
SCALE	NOT TO SCALE

SHEET 000G-01



REGIONAL MAP

WASHINGTON STATE

VICINITY MAP

CENTRAL WASHINGTON STATE

WASTE WATER TREATMENT PLANT LOCATION MAP

CITY OF WENATCHEE

ELECTRONIC MEDIA DISCLAIMER: THIS ELECTRONIC MEDIA PROVIDED BY HDR ENGINEERING, INC. IS SUBJECT TO AN ELECTRONIC MEDIA RELEASE. ALL USE AND RE-USE OF THIS MEDIA IS SUBJECT TO THE TERMS AND CONDITIONS OF THE RELEASE.

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WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL REGIONAL, VICINITY AND LOCATION MAPS

0 1" 2"

FILENAME	000G–02.dwg
SCALE	NOT TO SCALE

SHEET **000G-02**

DESIGN WASTELOADS

FLOW (MGD)	
AVERAGE ANNUAL	5.0
MAXIMUM MONTH	5.5
MAXIMUM WEEK	5.8
MAXIMUM DAY	7.1
PEAK (1)	11.0

(1) PEAK FLOW PUMPED TO HEADWORKS. FLOW EXCEEDING 11 MGD ARE PUMPED TO FLOW EQUALIZATION BASIN.

INFLUENT

BOD (LBS/DAY)	
AVERAGE ANNUAL	11,900
MAXIMUM MONTH	13,000
MAXIMUM WEEK	14,300
MAXIMUM DAY	20,500
TSS (LBS/DAY)	
AVERAGE ANNUAL	11,800
MAXIMUM MONTH	13,100
MAXIMUM WEEK	15,400
MAXIMUM DAY	19,700
TKN (LBS/DAY)	
AVERAGE ANNUAL	1,200
MAXIMUM MONTH	1,800
MAXIMUM WEEK	2,000
MAXIMUM DAY	2,600

PRIMARY EFFLUENT

BOD (LBS/DAY)	
AVERAGE ANNUAL	7,120
MAXIMUM MONTH	7,959
MAXIMUM WEEK	9,440
MAXIMUM DAY	14,550
TSS (LBS/DAY)	
AVERAGE ANNUAL	4,100
MAXIMUM MONTH	5,210
MAXIMUM WEEK	5,510
MAXIMUM DAY	7,320
TKN (LBS/DAY)	
AVERAGE ANNUAL	
MAXIMUM MONTH	
MAXIMUM WEEK	
MAXIMUM DAY	

FLOW EQUALIZATION BASIN

NUMBER OF UNITS	1
VOLUME	1.7 MILLION GALLONS BELOW EL 639.0 (NAVD 88)
FLOW EQUALIZATION EFFLUENT PUMP	
TYPE	SUBMERSIBLE
CAPACITY	700 GPM @ 31 FT TDH
HORSEPOWER	10

PRIMARY CLARIFIERS

NUMBER OF UNITS	2
DIAMETER	1-65 FT, 1-80 FT
OVERFLOW RATE (GAL/FT2/DAY)	
AVERAGE	600
PEAK	1,320

AERATION BASINS

NUMBER OF UNITS	2

VOLUME, EACH (MG)		LENGTH	WIDTH	SWD
ZONE A	0.065	18	35	15
ZONE B	0.108	28	35	15
ZONE C	0.216	56	35	15
ZONE D	0.151	40	35	15
TOTAL	0.54			

WASTEWATER TEMPERATURE (C)	
SUMMER	20
WINTER	15
SOLIDS RETENTION TIME (DAYS)	
SUMMER	4.5
WINTER	6.5
MLSS	
SUMMER	
PLUG FLOW	3,300
STEP FEED	2,400
WINTER	
PLUG FLOW (2)	3,700
STEP FEED	3,300

ACTUAL OXYGEN REQUIREMENTS (AOR) (SUM OF TWO BASINS) (LBS/DAY) (4)	ZONE A	ZONE B	ZONE C	ZONE D	TOTAL
SUMMER					
PLUG FLOW (3)	N/A	3,900	5,400	2,800	12,100
STEP FEED	2,200	3,000	4,900	3,100	13,200
WINTER					
PLUG FLOW (2),(3)	N/A	3,100	4,500	2,700	10,300
STEP FEED	2,400	3,000	4,900	3,100	13,400
ALPHA	0.7	0.5	0.6	0.7	

AIR REQUIREMENTS (SUM OF TWO BASINS) (SCFM) (4)	ZONE A	ZONE B	ZONE C	ZONE D	TOTAL
SUMMER					
PLUG FLOW (3)	N/A	1,500	1,700	800	4,000
STEP FEED	1,800	1,200	1,600	850	5,450
WINTER					
PLUG FLOW (2),(3)	N/A	850	1,700	1,000	3,550
STEP FEED	1,900	1,200	1,600	850	5,550
DIFFUSERS					
TYPE OF BUBBLE	COARSE	FINE	FINE	FINE	
NUMBER, TOTAL	200	1,000	1,130	670	
SCFM/DIFFUSER (4)	10	1.5	1.5	1.5	

(2) CAPACITY FOR 4.5 MGD AT MAXIMUM MONTH INFLUENT BOD AND TSS CONCENTRATION.
(3) ANOXIC CONDITIONS IN ZONE A.
(4) AVERAGE AT MAXIMUM MONTH INFLUENT WASTELOAD.

AERATION BLOWERS	
TYPE	MULTIPLE STAGE CENTRIFUGAL
NUMBER OF UNITS	3
CAPACITY	5,500 SCFM @ 8.8 PSIG
HORSEPOWER	300
CONTROL	INLET THROTTLING

AERATION BASINS (CONTINUED)

ANOXIC MIXERS	
AERATION ZONE	A
NUMBER PER AERATION ZONE	1
HORSEPOWER	5
MIXED LIQUOR RECIRCULATION PUMPS	
NUMBER PER AERATION BASIN	1
TYPE	SUBMERSIBLE PROPELLER
CAPACITY	3,800 GPM @ 1.8 FT TDH
HORSEPOWER	10

SECONDARY CLARIFIERS

NUMBER OF UNITS	2
DIAMETER	80 FT
TYPE	SPIRAL RAKE
OVERFLOW RATE (GAL/FT2/DAY)	
AVERAGE	550
PEAK	1,100

SOLIDS LOADING RATE (LBS/FT2/DAY)	MAX. MO.	PEAK
SUMMER		
PLUG FLOW	23	45
STEEP FEED	16	33
WINTER		
PLUG FLOW	25	51
STEEP FEED	23	45
SVI	150	

RETURN ACTIVATED SLUDGE PUMPS

NUMBER OF UNITS	2
TYPE	VERTICAL SEWAGE PUMPS
CAPACITY, EACH (GPM)	1,900 @ 26 FT TDH
CONTROL	WEIR GATES TO EACH CLARIFIER WITH ELECTRIC ACTUATORS TO CONTROL RAS RATE. ADJUSTABLE SPEED PUMP DRIVES.

UV DISENFECTION

NUMBER OF CHANNELS	3
CAPACITY PER CHANNEL (MGD)	5.5
TRANSMITTANCE, MINIMUM	50%
NPDES FECAL COLIFORM - 30 DAY	200 / 100 mL
UV DOSAGE, uWs/cm2	40,000

RAW SEWAGE PUMPS - VERTICAL DRY PIT NON-CLOG

NO. 1 & 2	3,150 GPM @ 47 FT TDH
NO. 3	2,000 GPM
NO. 4	2,500 GPM
NO. 5	5,500 GPM
NO. 6	6,000 GPM

INFLUENT SCREENS

NUMBER OF UNITS	2
TYPE	PERFORATED PLATE SCREEN
PEAK FLOW WITH 1 SCREEN IN SERVICE	15 MGD
SCREENING CHANNEL DEPTH (FT)	5
SCREENING CHANNEL WIDTH (FT)	3
WATER DEPTH DOWNSTREAM OF SCREEN (FT)	
AVERAGE FLOW	0.5
PEAK FLOW (FT)	2
MAXIMUM HEAD LOSSES ACROSS SCREEN AT PEAK FLOW (FT)	
FOR CLEAN WATER	0.8
50% BINDING FACTOR	1.2
SCREEN PANEL PERFORATION DIAMETER	6 MM

SCREENINGS WASHER/ COMPACTOR

NUMBER OF UNITS	2
MIN. COMPACTED SCREENINGS VOLUME	10 (CF/DAY)
MIN. SCREENINGS VOLUME REDUCTION	70%
MIN. REMOVAL OF ORGANIC CONSTITUENTS	90%
MIN. SCREENINGS WEIGHT REDUCTION	60%
MINIMUM SOLID CONCENTRATION	50%

BIOFILTER

DESIGN TREATMENT FLOW RATE (SCFM)	21,000
REMOVAL EFFICIENCY	
HYDROGEN SULFIDE	
CONCENTRATION > 10 PPMV	99% REMOVAL
CONCENTRATION < 10 PPMV	DISCHARGE LESS THAN 100 PPBV
AMMONIA	
CONCENTRATION > 50 PPMV	90% REMOVAL
CONCENTRATION < 50 PPMV	DISCHARGE LESS THAN 5 PPMV
LAYER THICKNESS (IN)	
PLENUM ZONE	12
SOIL FILTER MEDIA	36
COVER ROCK	3

FOUL AIR FANS

FAN AND OPERATING POINT	
DEWATERING FAN	4,605 SCFM @ 2 IN W.C.
TRUCK LOADOUT FAN	6,440 SCFM @ 2.25 IN W.C.
SCREENINGS FAN	2,270 SCFM @ 2 IN W.C.
PRIMARY AREA FAN	1,835 SCFM @ 2 IN W.C.
BIOFILTER FAN (A)	10,435 SCFM @ 9 IN W.C.
BIOFILTER FAN (B)	10,435 SCFM @ 9 IN W.C.

NON-POTABLE WATER PUMPS

NUMBER OF UNITS	2
TYPE	NON-CLOG CENTRIFUGAL
CAPACITY	325 GPM @ 180 FT TDH
HORSEPOWER	25

NOTE:
ALL GRAYED OUT INFORMATION IS CONSIDERED TO BE EXISTING OR PREVIOUSLY DEFINED.

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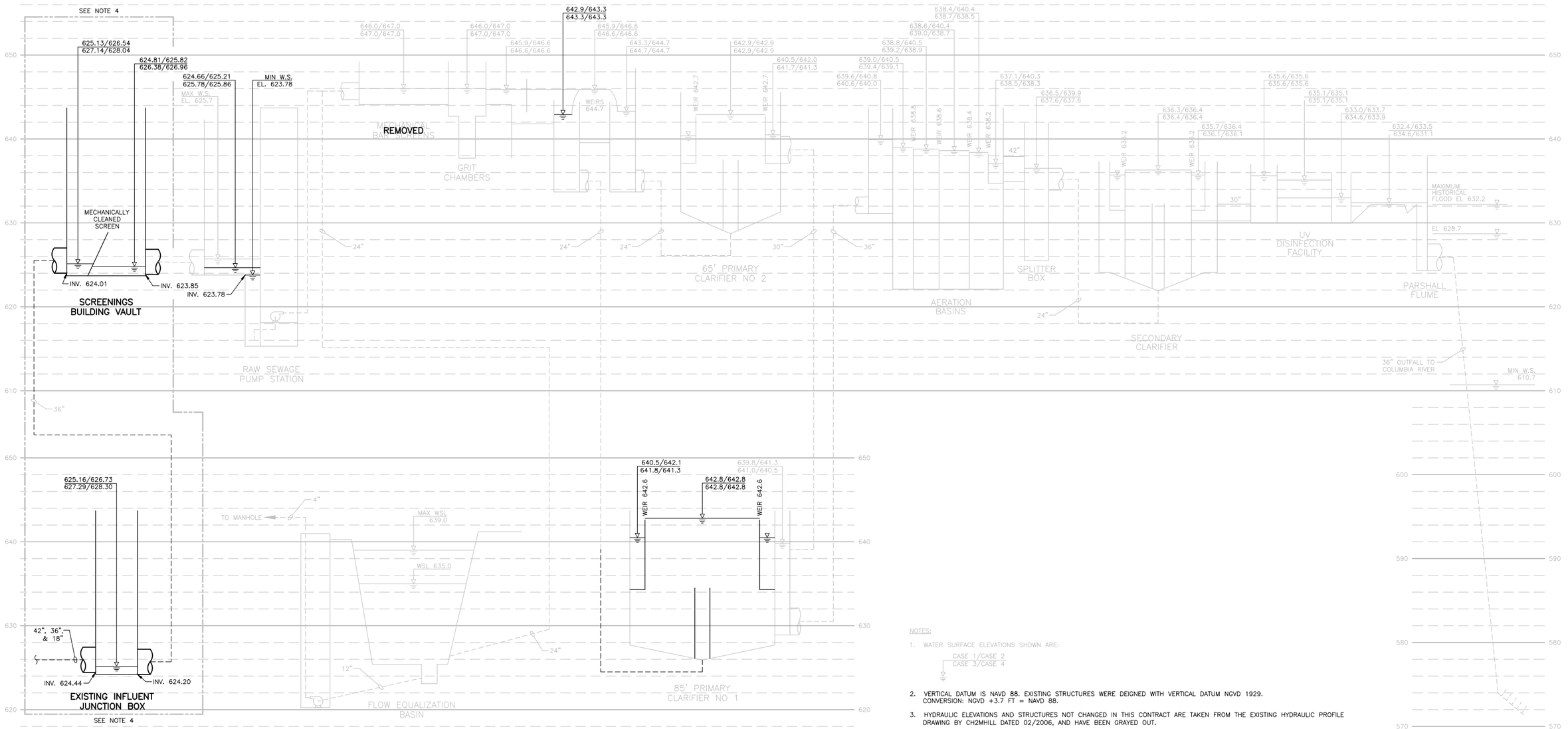
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL DESIGN CRITERIA

0 1" 2"

FILENAME	000G-03.dwg
SCALE	NOT TO SCALE

SHEET 000G-03



NOTES:

1. WATER SURFACE ELEVATIONS SHOWN ARE:
   CASE 1/CASE 2
   CASE 3/CASE 4
2. VERTICAL DATUM IS NAVD 88. EXISTING STRUCTURES WERE DEIGNED WITH VERTICAL DATUM NGVD 1929. CONVERSION: NGVD +3.7 FT = NAVD 88.
3. HYDRAULIC ELEVATIONS AND STRUCTURES NOT CHANGED IN THIS CONTRACT ARE TAKEN FROM THE EXISTING HYDRAULIC PROFILE DRAWING BY CH2MHILL DATED 02/2006, AND HAVE BEEN GRAYED OUT.
4. THE INFLUENT JUNCTION BOX AND SCREENINGS BUILDING VAULT ARE EXISTING STRUCTURES AND WERE NOT SHOWN ON THE CH2MHILL HYDRAULIC PROFILE DRAWING DATED 02/2006.

UNITS IN SERVICE/TOTAL UNITS

	FLOW (MGD)	RAS (MGD)	RECYCLE (MGD)	RAW SEWAGE W.S. ELEVATION	MECHANICALLY CLEANED SCREENS	GRIT CHAMBERS	PRIMARY CLARIFIERS	AERATION BASINS	SECONDARY CLARIFIERS	UV DISINFECTION BASINS	OUTFALL WATER SURFACE ELEV. (FT)
CASE 1	5	2.5	0.6	623.78	1/2	1/2	1/2	2/2	2/2	2/3	632.2
CASE 2	11	5.0	0.0	623.78	1/2	1/2	1/2	1/2	1/2	2/3	632.2
CASE 3	15	5.0	0.0	625.70	1/2	1/2	1/2	1/2	2/2	2/3	632.2
CASE 4	15	5.0	0.0	625.70	1/2	1/2	1/2	2/2	2/2	2/3	628.7

NOTE: IN CASE 3 AND 4, MECHANICAL BAR SCREENS, GRIT CHAMBERS AND PRIMARY CLARIFIERS RECEIVE 11 MGD ONLY.

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GENERAL HYDRAULIC PROFILE

0 1" 2"

FILENAME	000G-04.dwg
SCALE	NOT TO SCALE

SHEET 000G-04

A/C	AIR CONDITIONING
A/E	ARCHITECT/ENGINEER
A	AMPERE
AB	ANCHOR BOLT
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
ABT	ABOUT
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACP	ACOUSTIC CEILING PANEL, ASPHALTIC CONCRETE PAVEMENT
ACST	ACOUSTIC
AD	ADDENDUM, AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGGR	AGGREGATE
AI	AREA INLET, ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ALIG	ALIGNMENT
ALT	ALTERNATE, ALTITUDE
ALUM	ALUMINUM
AM	ACOUSTICAL MATERIAL
AMB	AMBIENT
ANC	ANCHOR
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APRX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
AT	ACOUSTICAL TILE, AMP TRIP
ATC	ACOUSTICAL TILE CEILING
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
AWT	ACOUSTICAL WALL TILE
B TO B	BACK TO BACK
BAL	BALANCE
BBD	BULLETIN BOARD
BC	BASE CABINET, BOTTOM CHORD, BOLT CENTER, BOLT CIRCLE
BD	BOARD
BE	BOTH ENDS, BELL END
BF	BOTH FACES, BOTTOM FACE, BLIND FLANGE, BOARD FEET
BITUM	BITUMINOUS
BKG	BACKING
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK, BEAM
BO	BOTTOM OF
BOC	BACK OF CURB
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOL	BOTTOM OF LOUVER, BOLLARD
BOP	BOTTOM OF PIPE
BOR	BOTTOM OF REGISTER
BOT	BOTTOM
BOU	BOTTOM OF UNIT
BP	BASE PLATE
BRG	BEARING
BRGP	BEARING PLATE
BRKT	BRACKET
BS	BOTH SIDES
BTU	BRITISH THERMAL UNIT
BTW	BETWEEN
BTWLD	BUTT WELD
BU	BELL UP, BUILT-UP
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
BYP	BYPASS
C TO C	CENTER TO CENTER
C&G	CURB AND GUTTER
C	CHANNEL SHAPE, CENTIGRADE, CONDUIT
CAB	CABINET
CAP	CAPACITY
CAT	CATALOG, CATALOGIORY
CAV	CAVITY
CB	CATCH BASIN
CCB	CONCRETE BLOCK
CCW	COUNTER CLOCKWISE
CDF	CONTROLLED-DENSITY FILL
CE	CONCRETE EDGE
CER	CERAMIC
CF	CUBIC FEET (FOOT)
CFL	COUNTER FLASHING
CHBD	CHALKBOARD
CHD	CHORD
CHFR	CHAMFER
CHH	COMMUNICATION HANDHOLE
CI	CURB INLET
CIP	CAST-IN-PLACE
CIPB	CONCRETE INTERLOCKING PAVER BALLAST
CIRC	CIRCULATION, CIRCULAR
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTERLINE, CLASS, CLOSE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CMH	COMMUNICATION MANHOLE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT, CONCRETE OPENING
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATION
COMP	COMPOSITION, COMPRESSIBLE, COMPOSITE
CON	CONCENTRIC
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COOR	COORDINATE
CORR	CORROSIVE, CORRUGATED
CP	CHECKER PLATE, CONTROL POINT
CPLG	COUPLING
CRL	CORROSION-RESISTANT LINING
CSC	COMPRESSION SLEEVE COUPLING
CSK	COUNTERSINK
CSS	CLINIC SERVICE SINK
CT	CERAMIC TILE
CTJ	CONTRACTION JOINT
CTR	CENTER
CTRL	CONTROL
CVT	CULVERT
CU	COPPER, CUBIC
CW	CLOCKWISE
CY	CUBIC YARD
d	PENNY (NAIL MEASURE)
D	DEEP, DIFFUSER, DRAIN
DB	DUCT BANK, DECIBEL, DRY BULB
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
DEMO	DEMOLITION
DEP	DEPRESSED
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON, DIGITAL INPUT
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIFF	DIFFERENTIAL, DIFFERENCE
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE, DISTRIBUTION
DIV	DIVISION
DL	DEAD LOAD
DMJ	DOUBLE MECHANICAL JOINT
DMPF	DAMP PROOFING
DN	DOWN
DO	DISSOLVED OXYGEN, DIGITAL OUTPUT, DITTO
DP	DEPTH
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DOWN SPOUT
DT	DOUBLE TEE, DRIP TRAP ASSEMBLY
DUP	DUPLICATE
DWG	DRAWING
DWL	DOWEL
DWR	DRAWER
E	EAST
EA	EACH, EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EDB	ELECTRICAL DUCT BANK
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT, EFFICIENCY
EHH	ELECTRICAL HANDHOLE
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELBOW, ELEVATION
ELEC	ELECTRICAL
EMBD	EMBEDDED
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE, EQUAL SPACE, EMERGENCY SHOWER
ESEW	EMERGENCY SHOWER AND EYE WASH
EST	ESTIMATE
EW	EACH WAY, EMERGENCY EYE/FACE WASH
EWC	ELECTRIC WATER COOLER
EWEF	EACH WAY, EACH FACE
EWTB	EACH WAY, TOP AND BOTTOM
EXC	EXCAVATION
EXH	EXHAUST
EXP	EXPANSION, EXPOSED
EXST	EXISTING
EXT	EXTERIOR, EXTERNAL, EXTENSION
F TO F	FACE TO FACE
F&B	FACE AND BYPASS
FAB	FABRICATE
FB	FLOOR BEAM
FBD	FIBERBOARD
FBG	FIBERGLASS
FBM	BOARD FOOT MEASURE
FBO	FURNISHED BY OWNER
FC	FLUSHING CONNECTION
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDC	FLEXIBLE DUCT CONNECTION
FDR	FEEDER
FDTN	FOUNDATION
FE	FLANGED END
FEC	FIRE EXTINGUISHER CABINET
FES	FLARED END SECTION
FEXT	FIRE EXTINGUISHER
FF	FAR FACE, FACTORY FINISH, FLAT FACE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH
FJT	FLUSH JOINT
FL	FLOW, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLOR	FLUORESCENT
FLR	FLOOR
FLS	FLASHING, FLUSH
FN	FENCE
FO	FINISHED OPENING
FOB	FLAT ON BOTTOM
FOC	FACE OF CONCRETE, FACE OF CURB
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOT	FLAT ON TOP
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FRTM	FIRE RETARDANT TREATED MATERIAL
FS	FLOOR SINK, FAR SIDE
FT	FEET, FOOT
FTG	FOOTING, FITTING
FUR	FURRED, FURRING
FURN	FURNITURE, FURNISH
FUT	FUTURE
FV	FACE VELOCITY
FW	FIELD WELD, FIRE WALL
FWD	FORWARD
FWE	FURNISHED WITH EQUIPMENT
FXTR	FIXTURE
G	GRILLE, GROUND
GA	GAGE (METAL THICKNESS)
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR, GRADE BREAK
GC	GROOVED COUPLING
GD	GUARD
GEN	GENERAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFMU	GROUND FACE MASONRY UNIT
GG	GUTTER GRADE
GJ	GROOVED JOINT
GL	GLASS
GLB	GLASS BLOCK, GLULAM BEAM
GND	GROUND
GP	GUY POLE
GR	GRADE
GRTG	GRATING
GSB	GYPSUM SHEATHING BOARD
GT	GREASE TRAP
GVL	GRAVEL
GW	GUY WIRE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM HARDBOARD
H	HIGH
HB	HOSE BIBB
HBD	HARDBOARD
HC	HANDICAPPED, HOLLOW CORE, HORIZONTAL CURVE, HORIZONTAL CENTERLINE
HD	HEAD, HOT DIP
HDR	HEADER
HDW	HARDWARE
HEX	HEXAGONAL
HGR	HANGER
HH	HANDHOLE
HID	HIGH-INTENSITY DISCHARGE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HPC	HORIZONTAL POINT OF CURVATURE
HPS	HIGH-PRESSURE SODIUM
HPT	HORIZONTAL POINT OF TANGENCY
HR	HOSE REEL, HOUR
HS	HEADED STUD, HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
HTG	HEATING
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWD	HARDWOOD
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
HZ	HERTZ, CYCLES PER SECOND
ID	INSIDE DIAMETER, INTERIOR DIMENSION
IE	INVERT ELEVATION, FOR EXAMPLE
IF	INSIDE FACE
IH	INTAKE HOOD
IMP	IMPACT
IN	INCH
INC	INCLUDE, INCANDESCENT
INF	INFLUENT
INSTR	INSTRUMENTATION
INSUL	INSULATION
INT	INTERIOR, INTERSECTION
INTR	INTERMEDIATE, INTERIOR
INV	INVERT
IPS	IRON PIPE SIZE
IPT	INTERNAL PIPE THREAD
IR	INSIDE RADIUS, IRON ROD
IRR	IRRIGATION
ISO	ISOMETRIC
JB	JUNCTION BOX
JCT	JUNCTION
JF	JOINT FILLER
JST	JOIST
JT	JOINT
K	KIP
KB	KNEE BRACE
KCMIL	THOUSAND CIRCULAR MILS
KD	KNOCK DOWN
KO	KNOCK OUT
KSI	KIPS PER SQUARE INCH
KW	KILOWATT
L	ANGLE, LENGTH, LAVATORY, LINTEL
LAD	LADDER
LAM	LAMINATE
LATL	LATERAL
LB	LAG BOLT, POUND
LCTB	LIQUID CHALK AND TACK BOARD
LDG	LANDING
LDR	LEADER
LE	LIFTING EYE
LF	LINEAR FOOT
LG	LONG
LH	LEFT HAND
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LMLU	LIQUID MARKER LECTURE UNIT
LNG	LONGITUDINAL
LOC	LOCATION
LP	LOW POINT
LPS	LOW-PRESSURE SODIUM
LR	LONG RADIUS
LT	LEFT
LTD	LIMITED
LTG	LIGHTING
LTL	LINTEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
LVL	LAMINATED VENEER LUMBER
LVR	LOUVER
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
MA	MIXED AIR
MACH	MACHINED
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MEMBER
MC	MECHANICAL CONTRACTOR, MECHANICAL COUPLING, MOMENT CONNECTION
MCB	METAL CORNER BEAD
MCJ	MASONRY CONTROL JOINT
MDMJ	MODIFIED DOUBLE MECHANICAL JOINT
MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MASONRY LINTEL
MLO	MAIN LUGS ONLY
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODULAR, MODIFY
MON	MONUMENT
MPT	MALE PIPE THREAD
MRGWB	MOISTURE-RESISTANT GYPSUM WALLBOARD
MS	MOP SINK
MSL	MEAN SEA LEVEL
MT	MOUNT
MU	MASONRY UNIT
MULL	MULLION
MV	MEDIUM VOLTAGE
MW	MONITORING WELL
N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NAT	NATURAL, NATIONAL
NC	NORMALLY CLOSED
NEG	NEGATIVE
NF	NEAR FACE, NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NS	NEAR SIDE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
O TO O	OUT TO OUT
OA	OUTSIDE AIR, OVERALL
OC	ON CENTER
OCPD	OVER CURRENT PROTECTION DEVICE
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
OF	OUTSIDE FACE, OFFICE FURNISHING
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OG	ORIGINAL GROUND
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
OVFL	OVERFLOW
OVHG	OVERHANG
OZ	OUNCE
P	PAINT
PA	PUBLIC ADDRESS
PAR	PARALLEL, PARAPET
PB	PANIC BAR, PULL BOX
PBD	PARTICLE BOARD
PC	POINT OF CURVE, PIECE, PRECAST
PCC	POINT OF COMPOUND CURVATURE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PE	PLAIN END
PED	PEDESTAL
PEN	PENETRATION
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PF	POWER FACTOR
PFMU	PREFACED MASONRY UNIT
PH	PHASE
PI	POINT OF INTERSECTION
PKG	PACKAGE
PL	PLATE, PROPERTY LINE, PRECAST LINTEL
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PNEU	PNEUMATIC
POL	POLISH
POS	POSITIVE, POSITION
PP	POLYPROPYLENE, POWER POLE
PRC	POINT OF REVERSE CURVATURE
PREF	PREFINISHED
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE
PRES	PRESSURE
PRI	PRIMARY
PROP	PROPERTY, PROPOSED
PROT	PROTECTION
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PST	PRESTRESSED
PT	POINT, POINT OF TANGENCY
PTN	PARTITION
PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
PVMT	PAVEMENT
PWD	PLYWOOD
PWJ	PLYWOOD WEB JOIST
PZ	PIEZOMETER
Q	RATE OF FLOW
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R&R	REMOVE AND REPLACE
R&S	REMOVE AND SALVAGE
R	RADIUS, REGISTER, RISER
RA	RETURN AIR
RB	RESILIENT BASE, ROCK BERM
RCPT	RECEPTACLE
RD	ROOF DRAIN
REC	RECESS
RECD	RECEIVED
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REINF	REINFORCING
REM	REMOVE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING, RETURN
REV	REVISION, REVERSE
RF	RESILIENT FLOORING
RFG	ROOFING
RFL	REFLECTED, REFLECTOR
RGH	ROUGH
RGS	RIGID GALVANIZED STEEL
RGS-PVC	PVC COATED RGS
RH	RELIEF HOOD, RIGHT HAND, RELATIVE HUMIDITY
RL	REQUIRED LAP
RLFA	RELIEF AIR
RND	ROUND
RNG	RUNNING
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RST	REINFORCING STEEL
RSW	RECIRCULATING SCRUBBER WATER
RT	RIGHT
RVT	RESILIENT VINYL TILE
RY	READY
S	SOUTH, SINK
SA	SUPPLY AIR
SAMU	SOUND-ABSORBING MASONRY UNIT
SAN	SANITARY
SB	SPLASH BLOCK
SC	SOLID CORE
SCH	SCHEDULE
SCHEM	SCHEMATIC
SCN	SCREEN
SE	STEEL/ALUMINUM EDGE
SEC	SECONDARY, SECONDS
SECT	SECTION
SEP	SEPARATE
SF	SQUARE FOOT, SILT FENCE
SG	SHEET GLASS, SEALANT GROOVE
SH	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIL	SILENCE
SIM	SIMILAR
SJ	SLAB JOINT
SL	SLOPE, STEEL LINTEL
SLTD	SLOTTED
SLV	SLEEVE
SMLS	SEAMLESS
SOG	SLAB ON GRADE
SP	SOUNDPROOF, STANDPIPE
SPA	SPACING
SPEC	SPECIFICATION
SPLY	SUPPLY
SPST	SINGLE POLE SINGLE THROW
SPT	SET POINT
SQ	SQUARE
SR	SHORT RADIUS
SS	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STR	STRUCTURAL, STRAIGHT
SUB	SUBSTITUTE
SUC	SUCTION
SUSP	SUSPENDED
SY	SQUARE YARD
SYM	SYMBOL
SYMM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T	TILE, TREAD
TA	TOILET ACCESSORY, TEMPERED AIR
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEF	TROWELED EPOXY FLOORING
TEMP	TEMPORARY, TEMPERATURE
THD	THREAD
THK	THICK
THRESH	THRESHOLD
TKBD	TACK BOARD
TOB	TOP OF BOLT, TOP OF BANK, TOP OF BEAM, TOP OF BERM
TOC	TOP OF CURB, TOP OF CONCRETE
TOD	TOP OF DUCT
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOL	TOLERANCE, TOP OF LEDGER
TOM	TOP OF MASONRY
TOP	TOP OF PLATE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB, TOP OF STEEL, TOE OF SLOPE
TOW	TOP OF WALL
TP	TOILET PARTITION, TELEPHONE POLE, TOE PLATE, TRAP PRIMER
TPD	TOILET PAPER DISPENSER
TPG	TOPPING, THROUGH PLATE GIRDER
TR	TRANSOM
TRANS	TRANSITION
TRD	TRENCH DRAIN
TYP	TYPICAL
U	URINAL
UG	UNDERGROUND
ULT	ULTIMATE
UNFN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	VENT, VELOCITY, VOLT
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARNISH, VARIABLE, VOLT AMPERES REACTIVE
VB	VAPOR BARRIER, VINYL BASE, VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE, VERTICAL CENTERLINE
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VERTS	VERTICAL REINFORCING
VG	VERTICAL GRAIN
VIF	VERIFY IN FIELD
VIN	VINYL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VS	VERSUS, VAPOR SEAL
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W/	WITH
W/O	WITHOUT
W	WATT, WEST, WIDE, WINDOW, WIRE, WIDE FLANGE BEAM
WB	WOOD BASE
WC	WATER CLOSET, WATER COLUMN
WD	WOOD, WIDTH
WF	WIDE FLANGE, WASH FOUNTAIN
WG	WIRE GLASS, WATER GAGE
WH	WALL HYDRANT, WEEP HOLE
WI	WROUGHT IRON
WL	WATER LEVEL
WLD	WELDED
WM	WIRE MESH
WP	WEATHERPROOF
WS	WATERSTOP, WATER SURFACE
WSCT	WAINSCOT
WT	WEIGHT, WATER TIGHT
WTHP	WATERPROOF, WORKING POINT
WWF	WELDED WIRE FABRIC
XP	EXPLOSION-PROOF
XS	EXTRA STRONG
XSECT	CROSS SECTION
XXS	DOUBLE EXTRA STRONG
YH	YARD HYDRANT
YS	YIELD STRENGTH

GENERAL NOTES:

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING AND "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.
4. SEE INSTRUMENTATION LEGEND SHEET FOR PROJECT-SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

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1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	B. DUDZIK
DRAWN	B. LILLY
CHECKED	J. KOCH
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL ABBREVIATIONS

0 1" 2"

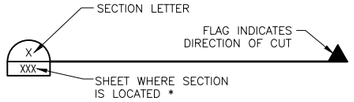
FILENAME	000G-05.dwg
SCALE	NOT TO SCALE

SHEET
000G-05

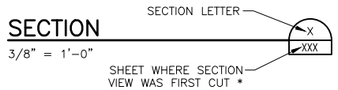
GENERAL SYMBOLOGY

PLAN
1/4" = 1'-0"

PLAN TITLE



SECTION CUT MARKER



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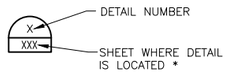
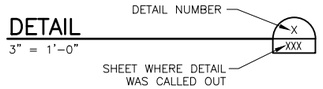


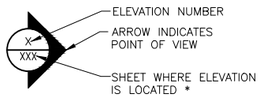
DETAIL MARKER
FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.

XXXXXXXXX

DETAIL MARKER
FOR REFERENCING DETAILS BOUND IN SPECIFICATIONS OR SEPARATE VOLUME.



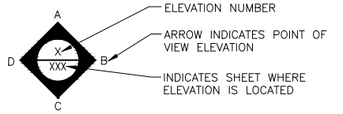
DETAIL TITLE



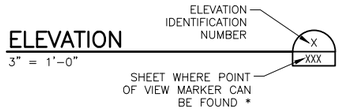
SINGLE ELEVATION OR PHOTO MARKER

* FOR COMMON DETAILS AND SECTIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON THE SAME SHEET, THE SHEET NUMBER IS REPLACED BY A DASH (-).

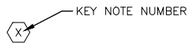
ELEVATION MARKER



MULTIPLE ELEVATION OR PHOTO MARKER



ELEVATION TITLE



KEY NOTE DESIGNATION

ARCHITECTURAL

ROOM NAME / XX-XX	ROOM NUMBER
XXX / X	DOOR NUMBER
A	COLUMN GRID LINE
X	WALL TYPE
X	WINDOW TYPE
X	LOUVER
X	ACCESSORY, FURNITURE, AND MISCELLANEOUS EQUIPMENT IDENTIFIER

GENERAL LINE SYMBOLOGY

	4-HOUR FIRE RATED WALL
	3-HOUR FIRE RATED WALL
	2-HOUR FIRE RATED WALL
	1-HOUR FIRE RATED WALL
	COLUMN GRID LINE/CENTERLINE

SHEET NAMING CONVENTION

AREA DESIGNATION

000 - GENERAL OR STANDARD INFORMATION

100 - INFLUENT AREA
- 110 - INFLUENT JUNCTION BOX
- 120 - PRE-AERATION STRUCTURE/SCREENINGS BLDG

200 - PUMP STATION AREA
- 210 - INFLUENT PUMP STATION WET WELL
- 220 - INFLUENT PUMP STATION CONTROL BUILDING

300 - HEADWORKS AREA
- 310 - EXISTING HEADWORKS/FAN BLDG/GRIT WORKS

400 - PRIMARY CLARIFIER AREA
- 410 - PRIMARY CLARIFIER NO. 1
- 420 - PRIMARY CLARIFIER NO. 2

500 - SOLIDS HANDLING AREA
- 510 - SOLIDS HANDLING FACILITY
- 520 - DIGESTER NO. 1
- 530 - DIGESTER NO. 2
- 540 - DIGESTER NO. 3
- 550 - DIGESTER NO. 4 (FUTURE)

600 - AERATION AREA
- 610 - AERATION BASIN
- 620 - BLOWER BUILDING

700 - SECONDARY CLARIFIER AREA
- 710 - SECONDARY CLARIFIER NO. 1
- 720 - SECONDARY CLARIFIER NO. 2

800 - MISC SITE BUILDINGS
- 810 - UV BUILDING
- 820 - HYPO BUILDING
- 830 - MAINTENANCE BUILDING

900 - ODOR CONTROL AREA
- 910 - ODOR CONTROL FACILITY

DISCIPLINE DESIGNATOR & ORDER

G	GENERAL
Y	INSTRUMENTATION
X	DEMOLITION
C	CIVIL
L	LANDSCAPE
S	STRUCTURAL
A	ARCHITECTURAL
D	PROCESS
M	MECHANICAL (HVAC)
E	ELECTRICAL

SHEET TYPE DESIGNATOR

-	NOT USED FOR THIS PROJECT

EXAMPLE

SCREENINGS BUILDING, STRUCTURAL, SHEET 01

1	2	0					

AREA DESIGNATION

			S			

DISCIPLINE DESIGNATOR

				-		

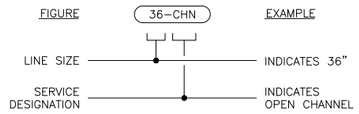
SHEET TYPE DESIGNATOR

					0	1

SHEET NUMBER

IDENTIFICATION SYMBOLOGY

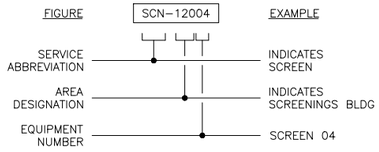
PIPING/DUCTING IDENTIFICATION



SERVICE ABBREVIATIONS:

XX-CHN	OPEN CHANNEL
XX-DR	DRAIN
XX-FAD	FOUL AIR DUCTING
XX-HWR	HOT WATER RETURN
XX-HWS	HOT WATER SUPPLY
XX-HW1	HEATED PLANT SERVICE WATER
XX-LPA	LOW PRESSURE AIR
XX-NPW	NON-POTABLE WATER
XX-PI	PRIMARY INFLUENT
XX-PS	PRIMARY SCUM
XX-PW	POTABLE WATER
XX-RD	ROOF DRAIN
XX-RS	RAW SEWAGE
XX-SAM	SAMPLER
XX-SCM	SCUM
XX-SCN	SCREENINGS
XX-W1	PLANT SERVICE WATER

EQUIPMENT IDENTIFICATION



EQUIPMENT ABBREVIATIONS:

F-XXXYY	FAN
FI-XXXYY	FLOW INDICATOR - ROTAMETER
FM-XXXYY	FLOW METER
HB-XXXYY	HOSE BIBB
LCP-XXXYY	LOCAL CONTROL PANEL
MCC-XXXYY	MOTOR CONTROL CENTER
P-XXXYY	PUMP
PLC-XXXYY	PROGRAMMABLE LOGIC CONTROLLER
PNL-XXXYY	ELECTRICAL PANEL
SAM-XXXYY	SAMPLER
SCN-XXXYY	SCREEN
SG-XXXYY	SLIDE GATE
T-XXXYY	TANK
V-XXXYY	VALVE
VFD-XXXYY	VARIABLE FREQUENCY DRIVE
WHR-XXXYY	WASHER/COMPACTOR

GENERAL NOTES:

1. THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

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City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL LEGEND

0 1" 2"

FILENAME	000G-06.dwg
SCALE	NOT TO SCALE

SHEET 000G-06

PRIMARY ELEMENT SYMBOLOGY

- ORIFICE PLATE
- PITOT TUBE OR ANNUBAR
- FI — FLOW INDICATOR – ROTAMETER
- SONIC OR ULTRASONIC FLOWMETER
- M — MAGNETIC FLOWMETER
- FT — MASS DISPERSION FLOWMETER
- FLUME
- WEIR
- PROPELLER OR TURBINE METER
- VENTURI TUBE
- FLOAT SWITCH
- TE — TEMPERATURE ELEMENT WITH THERMOWELL
- FG — SIGHT FLOW GLASS

LINE TYPES

- MAIN PROCESS LINE
- SECONDARY PROCESS LINE
- AUXILIARY PROCESS LINE
- DIRECTION OF FLOW
- DISCRETE SIGNAL
- PNEUMATIC SIGNAL
- ELECTRICAL POWER
- ELECTRICAL SIGNAL
- HYDRAULIC SIGNAL
- SOFTWARE OR DATA LINK
- SIGNAL CONNECTION
- CROSSOVER – NO CONNECTION
- CAPILLARY

CROSS REFERENCE SYMBOLOGY

- 000Y–03/A — CONTINUATION "A" ON SHEET 000Y–03
- 000Y–03/A — CONTINUATION "A" FROM SHEET 000Y–03

INSTRUMENT SYMBOLOGY

- LOCALLY MOUNTED FIELD INSTRUMENTATION
- MOUNTED ON PANEL FRONT
- MOUNTED INSIDE PANEL
- XXX — FRONT PANEL MOUNTED ON AUXILIARY PANEL (SUBSCRIPT INDICATES PANEL)
- MOUNTED INSIDE AUXILIARY PANEL
- PILOT LIGHT
- INSTRUMENT FUNCTIONS SHARING COMMON HOUSING
- COMPLEX INTERLOCK AS DEFINED IN CONTROL DIAGRAM OR IN SPECIFICATIONS
- SHARED DISPLAY, SHARED CONTROL, FIELD MOUNTED
- SHARED DISPLAY, SHARED CONTROL, PRIMARY LOCATION – NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, PRIMARY LOCATION – NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, FIELD MOUNTED

ACTUATOR SYMBOLOGY

- OPERATOR ABBREVIATIONS:
  M = MOTOR
  P = PNEUMATIC
  S = SOLENOID
- FLOAT OPERATOR
- SPRING–OPPOSED SINGLE–ACTING PNEUMATIC CYLINDER
- DOUBLE–ACTING PNEUMATIC CYLINDER
- PNEUMATIC DIAPHRAGM
- PNEUMATIC DIAPHRAGM WITH POSITIONER

TYPES OF POWER SUPPLY

A	PLANT COMPRESSED AIR
IA	INSTRUMENTATION AIR
ES	ELECTRIC SUPPLY
NG	NATURAL GAS
HYD	HYDRAULIC

INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USERS CHOICE			CONTROL	CLOSED
D	USERS CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME; RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

MISCELLANEOUS INSTRUMENTATION ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
CL2	CHLORINE (ANALYZER MODIFIER)
CO	CARBON MONOXIDE (ANALYZER MODIFIER)
CO2	CARBON DIOXIDE (ANALYZER MODIFIER)
COMB	COMBUSTIBLES (ANALYZER MODIFIER)
COND	CONDUCTIVITY (ANALYZER MODIFIER)
DEN	DENSITY (ANALYZER MODIFIER)
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DO	DISSOLVED OXYGEN (ANALYZER MODIFIER)
E/P	VOLTAGE TO PNEUMATIC
H2S	HYDROGEN SULFIDE (ANALYZER MODIFIER)
HCL	HYDROGEN CHLORIDE (ANALYZER MODIFIER)
I/O	INPUT/OUTPUT
I/P	CURRENT TO PNEUMATIC
NOX	NITROGEN OXIDE (ANALYZER MODIFIER)
OI	OPERATOR INTERFACE
O2	OXYGEN (ANALYZER MODIFIER)
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
SS	SUSPENDED SOLIDS (ANALYZER MODIFIER)
TURB	TURBIDITY (ANALYZER MODIFIER)
WAN	WIDE AREA NETWORK

CONTROL SWITCH NOTATION ABBREVIATIONS

XXX / XXXX — XXX

ACK	ACKNOWLEDGE
ESTOP	EMERGENCY STOP
FAIL	FAILURE
FOR	FORWARD–OFF–REVERSE
FR	FORWARD–REVERSE
FS	FAST–SLOW
HA	HAND–AUTO
HOA	HAND–OFF–AUTO
HOR	HAND–OFF–REMOTE
LL	LEAD–LAG
LLS	LEAD–LAG–STANDBY
LOR	LOCAL–OFF–REMOTE
LR	LOCAL–REMOTE
LS	LEAD–STANDBY
MA	MANUAL–AUTO
OAC	OPEN–AUTO–CLOSE
OC	OPEN–CLOSE
OO	ON–OFF
OSC	OPEN–STOP–CLOSE
RJ	RUN–JOG
RJR	RUN–JOG–REVERSE
SIL	SILENCE
SS	START–STOP

VALVES

- BALL VALVE
- BUTTERFLY VALVE
- CONE VALVE
- CHECK VALVE
- DOUBLE–DISK CHECK VALVE
- BALL CHECK VALVE
- DIAPHRAGM VALVE
- GATE VALVE
- GLOBE VALVE
- KNIFE GATE VALVE
- NEEDLE VALVE
- PINCH VALVE
- PLUG VALVE
- THREE–WAY BALL VALVE
- THREE–WAY PLUG VALVE
- PRESSURE–REDUCING VALVE
- PRESSURE–REGULATING VALVE
- THREE–WAY CONTROL VALVE
- OR — PRESSURE–RELIEF VALVE
- X — AIR–RELEASE VACUUM VALVE
  A = AIR RELEASE
  VAC = VACUUM

MISCELLANEOUS SYMBOLOGY

- PERFORATED FILTER SCREEN
- WASHER/COMPACTOR
- SLIDE GATE

GENERAL NOTES:

1. THIS IS A STANDARD INSTRUMENTATION SYMBOLOGY AND ABBREVIATIONS SHEET. LISTING OF SYMBOLS AND ABBREVIATIONS DOES NOT IMPLY ALL SYMBOLS AND ABBREVIATIONS HAVE BEEN USED ON THIS PROJECT.
2. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR MISCELLANEOUS PIPING SYMBOLS.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE–EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
4. VALVE SYMBOLS SHOWN HERE ARE APPLICABLE ONLY TO INSTRUMENTATION DIAGRAMS. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR VALVE SYMBOLS USED ELSEWHERE ON THE SHEETS.

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PROJECT MANAGER	A. MEILLEUR
DESIGNED	B. DUDZIK
DRAWN	B. LILLY
CHECKED	J. KOCK
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL INSTRUMENTATION LEGEND

0 1" 2"

FILENAME	000G–07.dwg
SCALE	NOT TO SCALE

SHEET 000G-07

CIVIL MAPPING SYMBOLOGY

- EMBANKMENT SLOPE (CUT)
- EMBANKMENT SLOPE (FILL)
- H:V — EMBANKMENT SLOPE RIGHT ARROW RIGHT
- H:V — EMBANKMENT SLOPE LEFT ARROW LEFT
- 123 — SPOT ELEVATION/POINT #
- SURVEY BENCHMARK
- CP–X — SURVEY CONTROL POINT
- HORIZONTAL CONTROL POINT
- VERTICAL CONTROL POINT
- SECTION CORNER MONUMENT
- SECTION CORNER NO MONUMENT
- X — IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE
- X — TEST PIT
- X — SOIL BORING
- BUOY
- FLOW ARROW
- WATER LEVEL IN SECTION/PROFILE
- TIDE GAUGE
- EXISTING UTILITY POLE
- DOWNGUY
- X — EXTERIOR UTILITY JUNCTION BOX
- XXX — INTERSTATE HIGHWAY SYMBOL
- XXX — US HIGHWAY SYMBOL
- XXX — STATE HIGHWAY SYMBOL
- HAY BALE SILT CHECK
- TEMPORARY SEDIMENT TRAP
- X — PIEZOMETER
- RXR — RAIL SIGNAL
- RAIL SWITCH
- SIGN
- In — TIRE TREDDLE
- TRAFFIC ARM WITH CARD READER
- TRAFFIC ARM MECHANICAL SWING

- CO — CLEANOUT
- CULVERT END SYMBOL (WITH CULVERT SHOWN BETWEEN SYMBOLS)
- X — FIRE HYDRANT
- F — FUEL OIL METER
- F — FUEL OIL MANHOLE
- F — FUEL OIL VAULT
- GT — GREASE TRAP
- GC — GRIT CHAMBER
- HEADWALL
- I — INDUSTRIAL WASTE WATER METER
- I — INDUSTRIAL WASTE WATER MANHOLE
- G — NATURAL GAS METER
- G — NATURAL GAS RECEIVER
- G — NATURAL GAS TRAP
- G — NATURAL GAS LINE VAULT
- MW — MONITORING WELL
- X — POST INDICATOR VALVE
- PS X — PUMP STATION
- S — SANITARY MANHOLE
- ST — SEPTIC TANK
- X — TANK BELOW GROUND
- X — TANK HORIZONTAL ABOVE GROUND
- X — TANK VERTICAL ABOVE GROUND

- CB — STORM CATCH BASIN
- CB — STORM ROUND CATCH BASIN
- D — STORM DRAINAGE MANHOLE
- WATER/AIR VENT
- W — WATER BACKFLOW PREVENTER
- WATER BLOWOFF
- W — WATER METER
- WS — WATER SHUTOFF
- WS — WATER SOFTENER
- W — WATER VALVE VAULT
- VALVE

UTILITY/CIVIL LINE SYMBOLOGY

- PIPELINE
- LARGE PIPELINE
- UTILITY BENEATH STRUCTURE
- RAILROAD
- CENTERLINE
- BOTTOM OF DITCH
- PROPERTY LINE
- EASEMENT
- LIMITS OF CONSTRUCTION
- ROW
- EXISTING CONTOUR (MINOR)
- 25 — EXISTING CONTOUR W/ELEVATION (MAJOR)
- EXISTING FENCE
- EXISTING VEGETATION/BRUSH LINE
- FENCE – BARB WIRE
- FENCE – CHAIN LINK
- FENCE – FIELD
- FENCE – OTHER
- FENCE – WOOD
- XX — XX — FENCE – WOVEN WIRE
- FLOOD LIMIT (25 YEAR)
- FLOOD LIMIT (50 YEAR)
- FLOOD LIMIT (100 YEAR)
- FLOOD LIMIT (200 YEAR)
- FLOOD LIMIT (500 YEAR)
- HIGHWAY GUARDRAIL
- LEVEE TOP
- LEVEE TOE
- NEW CONTOUR (MINOR)
- 25 — NEW CONTOUR (MAJOR)
- RB — RB — ROCK BERM
- SF — SF — SILT FENCE
- TOE OF SLOPE
- TOP OF SLOPE

- FO — FIBER OPTIC
- IW — FUEL OIL
- G — NATURAL GAS
- IW — INDUSTRIAL WASTE WATER
- SS — SANITARY SEWER
- SD — STORM SEWER
- W — DOMESTIC WATER
- NPW — DOMESTIC WATER NON–POTABLE

GENERAL NOTES:

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GENERAL CIVIL LEGEND

0 1" 2"

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SHEET **000G-08**

PIPING SYMBOLOGY

VALVES

SINGLE LINE	DOUBLE LINE	ISOLATION
		BALL VALVE
		BUTTERFLY VALVE
		DIAPHRAGM VALVE
		GATE VALVE
		GLOBE VALVE
		KNIFE GATE VALVE
		NEEDLE VALVE
		PINCH VALVE
		PLUG VALVE
		THREE–WAY BALL VALVE
		THREE–WAY PLUG VALVE
		CONTROL
		BALL CHECK VALVE
		CHECK VALVE
		DOUBLE–DISK CHECK VALVE
		CONE VALVE
OR	OR	PRESSURE RELIEF VALVE
		PRESSURE–REDUCING VALVE
X	X	AIR RELEASE VACUUM VALVE A = AIR RELEASE VAC = VACUUM
		PRESSURE–REGULATING VALVE
		3–WAY CONTROL VALVE

MISCELLANEOUS

- BACKFLOW PREVENTER
- M — WATER METER
- VARIABLE AREA METER
- UNION
- WYE–STRAINER
- PENETRATION THROUGH STRUCTURE
- FLEXIBLE HOSE OR TUBING
- FLEXIBLE PIPING CONNECTION
- LINE SIZE CHANGE (CONCENTRIC REDUCER)
- LINE SIZE CHANGE (ECCENTRIC REDUCER)
- LINE TURNING DOWN
- LINE TURNING UP
- BLIND FLANGE
- PIPE BREAK

NOTE:
MISCELLANEOUS SYMBOLOGY SHOWN IS FOR SINGLE–LINE PIPING. DOUBLE–LINE PIPING SYMBOLS ARE SIMILAR.

MISCELLANEOUS

- PIPE JOINT (SEE SPECS FOR REQUIREMENTS)
- COMPRESSION SLEEVE TYPE COUPLING
- FLANGED COUPLING ADAPTER (FCA)
- FLEXIBLE CONNECTION
- HARNESSED MECHANICAL COUPLING
- PRESSURE GAGE (W/COCK)
- TRAP
- QUICK DISCONNECT CAM & GROOVE COUPLING
- CAP OR PLUG
- CO — INTERIOR CLEANOUT
- HB–X — HOSE VALVE, HOSE BIBB, OR FLUSHING CONNECTION
- HR–X — HOSE RACK
- FD–X — FLOOR DRAIN

X = TYPE DESIGNATED IN SPECIFICATIONS

- PIPE IN SECTION
- BU — BELL UP (PLAN)
- BU — BELL UP (SECTION OR SCHEMATIC)
- D — DRAIN (SECTION OR SCHEMATIC)
- ATA — AIR TOOL ASSEMBLY
- AVS — AUTOMATIC VALVE STATION
- PRS — PRESSURE–REDUCING STATION

PLUMBING SYMBOLOGY

- -------VT-------- VENT (VT)
- POTABLE WATER, COLD (PWC)
- POTABLE WATER, HOT (PWH)

HVAC SYMBOLOGY

- 24x18 — SUPPLY AIR OR OUTSIDE AIR DUCT UP (SECTION CUT, FIRST DIMENSION DUCT WIDTH)
- SUPPLY AIR OR OUTSIDE AIR DUCT DOWN (NO SECTION CUT)
- RETURN AIR DUCT UP (SECTION CUT)
- RETURN AIR DUCT DOWN (NO SECTION CUT)
- EXHAUST AIR DUCT UP (NO SECTION CUT)
- EXHAUST AIR DUCT DOWN (NO SECTION CUT)
- ROUND ELBOW UP
- ROUND ELBOW DOWN
- TRANSITION – DOUBLE SIDED
- TRANSITION – ONE SIDED
- TRANSITION – RECTANGULAR TO ROUND DUCT
- STANDARD BRANCH – FOR SUPPLY AIR W/EXTRACTOR AND RETURN AIR W/O EXTRACTOR
- ELBOW – W/TURNING VANE (RECTANGULAR)
- ELBOW – W/TURNING VANES (RECTANGULAR), SMOOTH RADIUS
- GOOSENECK HOOD (COWL)
- 18x24 — RECTANGULAR DUCT OR OPENING SIZE – FIRST NUMBER INDICATES SIZE OF SIDE SHOWN
- 18" DIA — ROUND DUCT SIZE
- R OR D — RECTANGULAR DUCT INCLINE – RISE OR DROP IN RESPECT TO THE AIR FLOW
- (R OR D) — ROUND DUCT INCLINE – RISE OR DROP IN RESPECT TO THE AIR FLOW
- 18x24 — HIDDEN DUCT
- T 9'–10" / B 9'–0" / 18x10 — DUCT ELEVATION TAG ABOVE FINISH FLOOR
- PRESSURE/TEMPERATURE TEST PLUG (PETE PLUG OR EQUAL)
- SA — SOUND ATTENUATOR
- SD SD — SPLITTER DAMPER
- VD, BDD — VD = VOLUME DAMPER, BDD = BACKDRAFT DAMPER
- M — MOTOR OPERATED DAMPER
- FIRE DAMPER
- SMOKE DAMPER
- SMOKE AND FIRE DAMPER

- FLEXIBLE CONNECTION
- FLEXIBLE DUCT
- ACOUSTICAL LINING – DUCT DIMENSIONS FOR NET FREE AREA
- SIZE / CFM — SUPPLY AIR REGISTER OR GRILLE – W/DUCT–MOUNTED EXTRACTOR
- SIZE / CFM — EXHAUST AIR OR RETURN AIR REGISTER OR GRILLE
- SIZE / CFM — EXHAUST AIR OR RETURN AIR REGISTER OR GRILLE
- SIZE / CFM — SUPPLY AIR ASSEMBLY SQUARE DIFFUSER
- SIZE / CFM — SUPPLY AIR ASSEMBLY ROUND DIFFUSER
- WALL LOUVER
- AD PLAN / AD SECTION — ACCESS DOOR
- UC 3/4" — UNDERCUT DOOR 3/4"
- AD — ACCESS DOOR OR ACCESS PANEL IN DUCTWORK
- INTAKE OR RELIEF HOOD
- DOOR GRILLE
- AIR FLOW — BACKDRAFT DAMPER
- EXHAUST ROOF VENTILATOR PROPELLER OR CENTRIFUGAL TYPE
- PROPELLER WALL FAN
- ROOM AIR CONDITIONING UNIT
- INTAKE/EXHAUST LOUVER
- SUPPLY, RETURN OR EXHAUST FAN
- AIR FILTER

HVAC CONTROL SYMBOLOGY

- TC — TEMPERATURE CONTROLLER
- TT — TEMPERATURE TRANSMITTER
- TS — TEMPERATURE SWITCH
- T — THERMOSTAT
- TI — TEMPERATURE INDICATOR
- % — PERCENTAGE TIMER
- RC — RECEIVER CONTROLLER
- HOA — HAND–OFF–AUTO
- MS — MOTOR STARTER
- M — DAMPER ACTUATOR
- PI — PRESSURE INDICATOR
- FRZ — FREEZE STAT
- FS — FIRE STAT
- DPS — DIFFERENTIAL PRESSURE SWITCH
- SD — SMOKE DETECTOR
- FS — FLOW SWITCH
- PS — PRESSURE SWITCH
- — D — TIME DELAY
- M — MINIMUM POSITION RELAY
- S — SIGNAL
- AO — ANALOG OUTPUT
- AI — ANALOG INPUT
- DO — DIGITAL OUTPUT
- DI — DIGITAL INPUT
- C — COMMON PORT
- S — SIGNAL PORT
- NO — NORMALLY OPEN
- NC — NORMALLY CLOSED
- BALANCING VALVE
- RHC — RESISTANCE HEATING CONTACTOR
- TA — TEST–AUTO
- TOA — TEST–OFF–AUTO
- ELECTRIC SIGNAL
- PIPING
- BULB–TYPE THERMOSTAT

AIR FLOW SCHEMATIC AND TEMPERATURE CONTROL DIAGRAM SYMBOLOGY

- C / C — CHILLED WATER COOLING COIL
- H / C — HOT WATER HEATING COIL
- EP / R — DIRECT EVAPORATIVE COOLER
- D / X — DIRECT EXPANSION COOLING COIL
- EH / C — ELECTRIC HEATING COIL
- VFD — VFD (VARIABLE FREQUENCY DRIVE)
- H / C CAV — CONSTANT AIR VOLUME BOX WITH REHEAT COIL
- H / C VAV — VARIABLE AIR VOLUME BOX WITH REHEAT COIL

MISCELLANEOUS SYMBOLOGY

- MIST ELIMINATOR
- ACTIVATED CARBON OR CHEMICAL FILTER
- CENTRIFUGAL PUMP
- SPRAY NOZZLE/HUMIDIFIER

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3. SEE INSTRUMENTATION LEGEND SHEET FOR PROJECT–SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

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X 20A OR 3P / X 100AF 80AT 3P — LOW – VOLTAGE CIRCUIT BREAKER (CB). RATINGS AND NO. OF POLES AS SHOWN. WHEN SPECIFIC TYPE IS REQUIRED, X INDICATES TYPE.

TYPES:
MCCB – MOLDED CASE
ICCB – INSULATED CASE
LVP – LOW – VOLTAGE POWER
MCP – MOTOR CIRCUIT PROTECTOR (RATING PER CONNECTED LOAD)

CB — SEPARATELY MOUNTED CIRCUIT BREAKER; SEE ELECTRICAL ONE – LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

GFP — GROUND FAULT PROTECTION

52 — MEDIUM – VOLTAGE CIRCUIT BREAKER

FUSE, SIZE, AND NUMBER OF FUSES AS NOTED

FUSED CUTOUT, CURRENT RATING, FUSE SIZE, AND NUMBER OF POLES AS NOTED

FUSIBLE SWITCH, CURRENT RATING, FUSE SIZE, AND QUANTITY AS NOTED

NON–FUSED SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

DISCONNECT OR DRAWOUT CONNECTION

A C B & A C B — MAGNETIC MOTOR STARTER AND SEPARATELY MOUNTED COMBINATION MAGNETIC MOTOR STARTER

D C & D D — MOTOR CONTROLLER AND SEPARATELY MOUNTED MOTOR CONTROLLER WITH SHORT CIRCUIT PROTECTION AND DISCONNECT

MOTOR STARTER AND CONTROLLER SUBSCRIPTS:

A – MAGNETIC STARTER NEMA SIZE

B – STARTER TYPE
NONE – FULL VOLTAGE NON–REVERSING (FVNR)
FVR – FULL VOLTAGE REVERSING
2S – TWO SPEED
RVAT – REDUCED VOLTAGE AUTO TRANSFORMER

C – CONTROL DIAGRAM OR CONTROLS SCHEDULE NUMBER (IF REQUIRED)

D – CONTROLLER TYPE
VFD – VARIABLE FREQUENCY DRIVE
SS – SOLID STATE

SEPARATELY MOUNTED COMBINATION MOTOR STARTER OR CONTROLLER; SEE ELECTRICAL ONE – LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

THERMAL OVERLOAD ELEMENT

OL — THERMAL OVERLOAD RELAY CONTACT

DISCONNECT OR SAFETY SWITCH, 30A, 3P, NON–FUSED UNLESS OTHERWISE NOTED

7 1/2 OR HP — MOTOR WITH DESIGN HORSEPOWER (WHEN INDICATED)

G — GENERATOR

ATS — TRANSFER SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

ATS – AUTOMATIC
MTS – MANUAL

TRANSFORMER

Δ 3–PHASE, 3–WIRE DELTA CONNECTION

3–PHASE, 4–WIRE GROUNDED WYE CONNECTION

LP100 208/120V 3Ø, 4W — SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

100 KVA — NON–MOTOR LOAD WITH DESIGN KVA, KW, OR AMP

CPT — CONTROL POWER TRANSFORMER (CPT)

VOLTAGE TRANSFORMER (VT OR PT)

CURRENT TRANSFORMER (CT)

WH — UTILITY WATT–HOUR METER PER UTILITY REQUIREMENTS

DMP — DIGITAL METERING PACKAGE

RTM — RUN TIME METER

GROUND

LIGHTNING ARRESTER

SPD — LOW VOLTAGE SURGE PROTECTIVE DEVICE

ELECTRICAL CONNECTION

OR OR — NO ELECTRICAL CONNECTION

SV OR — SOLENOID VALVE

X / Y — CONTROL/RELAY COIL; X INDICATES TYPE, Y INDICATES LOOP NO. WHEN USED

TYPES:
CR – CONTROL RELAY
DP – DEFINITE PURPOSE RELAY
LC – LIGHTING CONTACTOR
M – MOTOR STARTER
PC – PHOTO CELL
TC – TIME CLOCK
TR – TIMING RELAY

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS DE–ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS DE–ENERGIZED

NORMALLY OPEN TEMPERATURE SWITCH; CLOSE ON RISING TEMPERATURE

NORMALLY CLOSED TEMPERATURE SWITCH; OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH; CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH; OPEN ON INCREASING FLOW

NORMALLY OPEN LEVEL SWITCH, CLOSE ON RISING LEVEL

NORMALLY CLOSED LEVEL SWITCH, OPEN ON RISING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN LIMIT SWITCH, CLOSE ON REACHING LIMIT

NORMALLY CLOSED LIMIT SWITCH, OPEN ON REACHING LIMIT

FIELD WIRING EXTERNAL TO CONTROL PANEL

X — INTERLOCK; X INDICATES TYPE

TYPES:
E – ELECTRICAL
M – MECHANICAL
K – KEY

OFF HAND AUTO, XOO, OOX — 3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS; UNLESS OTHERWISE NOTED, 2–POSITION SIMILAR

NORMALLY OPEN PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY CLOSED PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

X — INDICATING LIGHT, X INDICATES LENS COLOR

X — PUSH TO TEST INDICATING LIGHT, X INDICATES LENS COLOR

LENS COLORS:
R – RED
G – GREEN
B – BLUE
Y – YELLOW
W – WHITE
A – AMBER

T — TRANSFORMER

SS — SELECTOR SWITCH

PB — PUSHBUTTON

IC — INSTRUMENTATION/CONTROL DEVICE

CONTROL PANEL INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

CONTROL PANEL WITH DISCONNECT SWITCH INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

J — JUNCTION OR PULL BOX

PANELBOARD (250V TO 600V)

PANELBOARD (LESS THAN 250V)

ELECTRICAL EQUIPMENT ENCLOSURE: SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, OR OTHER EQUIPMENT AS INDICATED

PC — PHOTOCELL

X Z Y — CEILING/PENDANT–MOUNTED LUMINAIRE – HID, COMPACT FLUORESCENT, LED, OR INCANDESCENT

X Z Y — WALL–MOUNTED LUMINAIRE – HID, COMPACT FLUORESCENT, LED, OR INCANDESCENT

X Z Y — CEILING/PENDANT–MOUNTED FLUORESCENT FIXTURE

X Z Y — WALL–MOUNTED FLUORESCENT FIXTURE

X Z Y — CEILING/PENDANT–MOUNTED FLUORESCENT FIXTURE NORMAL/EMERGENCY

X Z Y — WALL–MOUNTED FLUORESCENT FIXTURE NORMAL/EMERGENCY

X Y — EMERGENCY LIGHT FIXTURE, 2 ATTACHED HEADS AS SHOWN

X Y — EMERGENCY LIGHT, REMOTE MOUNTED HEAD

X Y — DOUBLE–FACED CEILING OR WALL–MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

X Y — SINGLE–FACED CEILING OR WALL–MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

X Y — AREA OR ROADWAY LIGHT – POLE–MOUNTED

LIGHTING FIXTURE SUBSCRIPTS:
X – INDICATES FIXTURE TYPE PER LIGHTING FIXTURE SCHEDULE
Y – INDICATES CIRCUIT NUMBER FROM PANELBOARD
z – INDICATES CONTROLLING SWITCH (IF REQUIRED)

Y X — TOGGLE SWITCH

SUBSCRIPTS:
X – INDICATES TYPE
NONE – SINGLE POLE
3 – THREE–WAY
4 – FOUR–WAY
HP – TOGGLE SWITCH, HORSEPOWER RATED
K – KEY SWITCH
TE – MANUAL MOTOR STARTER WITH THERMAL ELEMENT
P – PILOT LIGHT
L – LIGHTED HANDLE
Y – INDICATES CONTROLLING SWITCH (IF REQUIRED)

SPECIAL–PURPOSE RECEPTACLE AS DEFINED ON PLANS

PLUG–IN RECEPTACLE STRIP, QUANTITY AND SPACING OF RECEPTACLES AS NOTED OR SPECIFIED

TELECOMMUNICATIONS OUTLET JUNCTION BOX

X Y — QUAD–DUPLEX RECEPTACLE, TWO NEMA 5–20R UNDER COMMON COVER PLATE

X Y — DUPLEX RECEPTACLE, NEMA 5–20R

X Y — SIMPLEX RECEPTACLE, NEMA 5–20R

SUBSCRIPTS:
X – INDICATES TYPE
GFCI – GROUND FAULT CIRCUIT INTERRUPTER
Y – INDICATES CIRCUIT NUMBER FROM PANELBOARD

CONDUIT TURNING UP

CONDUIT TURNING DOWN

HOME RUN TO PANEL, 2 #12, 1 #12G IN 3/4"C UNLESS OTHERWISE NOTED

CIRCUIT RUN BETWEEN DEVICES EXPOSED IN NON–ARCHITECTURALLY FINISHED AREAS; CONCEALED IN ARCHITECTURALLY FINISHED AREAS. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CONDUIT RUN BETWEEN DEVICES CONCEALED IN NON–ARCHITECTURALLY FINISHED AREAS OR UNDER FLOOR SLAB. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CIRCUIT HASH MARKS (WHEN INDICATED); LONG, SHORT, SINGLE DOT, AND DOUBLE DOT REPRESENT PHASE, NEUTRAL, EQUIPMENT GROUND, AND ISOLATED EQUIPMENT GROUND, RESPECTIVELY. #12 IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

CIRCUIT CONTINUATION

CONDUIT STUBBED OUT AND CAPPED

XXX — CONDUIT TAG OR CIRCUIT NUMBER – WIRE AND CONDUIT SIZE AS SPECIFIED IN CIRCUIT SCHEDULE ON THE SHEETS

GROUND CABLE

GROUND ROD

FAA — FIRE ALARM ANNUNCIATOR

FACP — FIRE ALARM CONTROL PANEL

F — FIRE ALARM MANUAL PULL STATION

CR — FIRE ALARM CONTROL RELAY

FS — FIRE ALARM CONTACT, FLOW SWITCH

TS — FIRE ALARM CONTACT, TAMPER SWITCH

PS — FIRE ALARM CONTACT, PRESSURE SWITCH

X AND X — SMOKE AND DUCT DETECTOR

SUBSCRIPT:
I – IONIZATION TYPE
P – PHOTOELECTRIC TYPE

X — HEAT DETECTOR

SUBSCRIPT:
R/C – RATE COMPENSATION
R/F – COMBINATION RATE OF RISE AND FIXED TEMP
R – RATE OF RISE
F – FIXED

X — ALARM BELL

X — ALARM HORN

X — ALARM FLASHING LIGHT

X — ALARM BELL AND FLASHING LIGHT COMBINATION UNIT

X — ALARM HORN AND FLASHING LIGHT COMBINATION UNIT

SUBSCRIPT:
NONE – GENERAL ALARM DEVICE
F – FIRE ALARM DEVICE

GENERAL NOTES:

1. THIS IS A STANDARD ELECTRICAL SYMBOLOGY SHEET. NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE–EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
3. SEE P&ID LEGEND SHEET FOR PROJECT–SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

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HDR
HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	I. RINCON
DRAWN	HDRSTD
CHECKED	E. SWANSON
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL ELECTRICAL LEGEND

0 1" 2"

FILENAME	000G–10.dwg
SCALE	NOT TO SCALE

SHEET 000G-10

SCREENINGS BUILDING CONTROL PANEL
SRCP–12000
PLC–12000

MCC

PROCESS

COMBUSTIBLE GAS LEL ALARM HORN
COMBUSTIBLE GAS LEL ALARM (3 LOCATIONS)
COMBUSTIBLE GAS HIGH LEVEL
COMBUSTIBLE GAS DETECTOR FAILURE
BRUSH MOTOR RUNNING
SCREEN RUNNING
HIGH LEVEL
BRUSH MOTOR OVERLOAD
SCREEN JAM/OVERLOAD
SYSTEM AUTO NOT READY
BRUSH MOTOR RUN
SCREEN RUN
HIGH LEVEL
BRUSH MOTOR OVERLOAD
SCREEN JAM/OVERLOAD
SYSTEM AUTO NOT READY
COMBUSTIBLE GAS HIGH LEVEL

QA 12009
ALH 12009 LEL

OUTLINED ITEMS TO BE SUPPLIED BY VENDOR

NOTE 1
CP–12004A
SPRAY WASH HOA 2012A
SCREEN HOA 2004A
BRUSH HOA 2004A
NEMA 12
I
ESTOP 2004A
VFD
VFD

NOTE 1
CP–12004B
SPRAY WASH HOA 2012B
SCREEN HOA 2004B
BRUSH HOA 2004B
NEMA 12
I
ESTOP 2004B
VFD
VFD

OUTLINED ITEMS TO BE SUPPLIED BY VENDOR

YL SYS IN REMOTE
HS FS
HS LOS
ESTOP 2004A
NEMA 7 CS–12004A

YL SYS IN REMOTE
HS FS
HS LOS
ESTOP 2004B
NEMA 7 CS–12004B

FROM PLANT 2–NPW

2–NPW TO PLANT

2–NPW 000Y–02/A TO SCREENINGS HANDLING

LEL ASH 12004
FAIL ASX 2004
NOTE 4
AE 2004

V–12011A
S
V–12012A
FI FI–12013A
V–12014A

V–12011B
S
V–12012B
FI FI–12013B
V–12014B

LIT 12002 ES
LE 12002 NOTE 5
LSH 12001

M SCREEN
M BRUSH

LIT 12006 ES
LE 12006 NOTE 5
000Y–02/B TO SCREENINGS HANDLING 1

INFLUENT SAMPLER SAM–12000
3/8–SAM

36–CHN

NO SG–12003A
SCN–12004A INFLUENT SCREEN 1
SG–12005A NO

M SCREEN
M BRUSH

000Y–02/C TO SCREENINGS HANDLING 2

36–CHN

NC SG–12003B
SCN–12004B INFLUENT SCREEN 2
SG–12005B NC

FROM SEWER 18–RS
FROM SEWER 36–RS
FROM SEWER 42–RS

INFLUENT JUNCTION BOX

36–RS

36–RS TO INFLUENT PUMP STATION

GENERAL NOTES:

1. VENDOR CONTROL PANEL SHALL BE LOCATED IN THE ELECTRICAL ROOM. THE ELECTRICAL ROOM IS UNCLASSIFIED UNDER NFPA 820.
2. THE SCREENINGS ROOM IS A CLASS I, DIVISION 2 AREA UNDER NFPA 820.
3. ALL SYSTEM DRAINS WILL DRAIN BACK INTO THE INFLUENT CHANNEL.
4. COMBUSTIBLE GAS DETECTOR LOCATED IN THE SCREENINGS CHANNEL VAULT AREA.
5. LEVEL TRANSMITTER LOCATED IN SCREENINGS VENDOR CONTROL PANEL CP–12004A OR CP–12004B.

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DESIGNED	S. CHILUKURI
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DRAWN	B. LILLY
	P. MCCLINTOCK
CHECKED	J. KOCH
	E. SWANSON
PROJECT NUMBER	171097

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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SCREENINGS BUILDING INFLUENT SCREENS PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

FILENAME	000Y–01.dwg
SCALE	NOT TO SCALE

SHEET 000Y-01

SCREENINGS BUILDING CONTROL PANEL
SRCP–12000
PLC–12000

WASHER READY
PRESS RUNNING
PRESS JAM/OVERLOAD
AGITATOR RUNNING
AGITATOR OVERLOAD
HAND/AUTO
HIGH–HIGH LEVEL
FORWARD PRESS
REVERSE PRESS
DRAIN VALVE ACTIVATER FAULT
DRAIN VALVE OPEN
DRAIN VALVE CLOSED

WASHER READY
PRESS RUNNING
PRESS JAM/OVERLOAD
AGITATIOR RUNNING
AGITATIOR OVERLOAD
HAND/AUTO
HIGH–HIGH LEVEL
FORWARD PRESS OPERATION
REVERSE PRESS OPERATION
DRAIN VALVE ACTIVATOR FAULT
DRAIN VALVE OPEN
DRAIN VALVE CLOSED

GENERAL NOTES:

1. VENDOR CONTROL PANEL SHALL BE LOCATED IN THE ELECTRICAL ROOM. THE ELECTRICAL ROOM IS UNCLASSIFIED UNDER NFPA 820.
2. THE SCREENINGS ROOM IS A CLASS I, DIVISION 2 AREA UNDER NFPA 820.
3. ALL SYSTEM DRAINS WILL DRAIN BACK INTO THE INFLUENT CHANNEL.

MCC

PROCESS

OUTLINED ITEMS TO BE SUPPLIED BY VENDOR

NOTE 1
CP–12007A
NEMA 12
HOA 2022A
I
ESTOP 2007A
RST 2007A
I FVR
HOA 2007A
LIT 2007A

NOTE 1
CP–12007B
NEMA 12
HOA 2022B
I
ESTOP 2007B
RST 2007B
I FVR
HOA 2007B
LIT 2007B

OUTLINED ITEMS TO BE SUPPLIED BY VENDOR

HS START WASH
HS LOR
HS LOS
ESTOP 2007A
HS LR
HS FOR
HS OCA
NEMA 7
CS–12007A

HS START WASH
HS LOR
HS LOS
ESTOP 2007B
HS LR
HS FOR
HS OCA
NEMA 7
CS–12007B

000Y–01/A
FROM INFLUENT SCREENS
2–NPW
S
V–12021A
V–12022A
FI
FI–12023A
V–12024A
LS 2007A
LSH 2007A
ZS 2007A
LE 2007A
ZS 2008A
MFR CABLE

000Y–01/B
FROM INFLUENT SCREEN 1
4–DR
M
4–DR
WHR–12007A
SCREENING WASHER COMPACTOR 1
HAULING CONTAINER 1
D

000Y–01/C
FROM INFLUENT SCREEN 2
S
V–12025A
V–12026A
V–12027A

V–12021B
S
V–12022B
FI
FI–12023B
V–12024B
LS 2007B
LSH 2007B
ZS 2007B
LE 2007B
ZS 2008B
MFR CABLE
4–DR
M
4–DR
WHR–12007B
SCREENING WASHER COMPACTOR 2
HAULING CONTAINER 2
D
S
V–12025B
V–12026B
V–12027B

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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SCREENINGS BUILDING WASHER/COMPACTOR PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

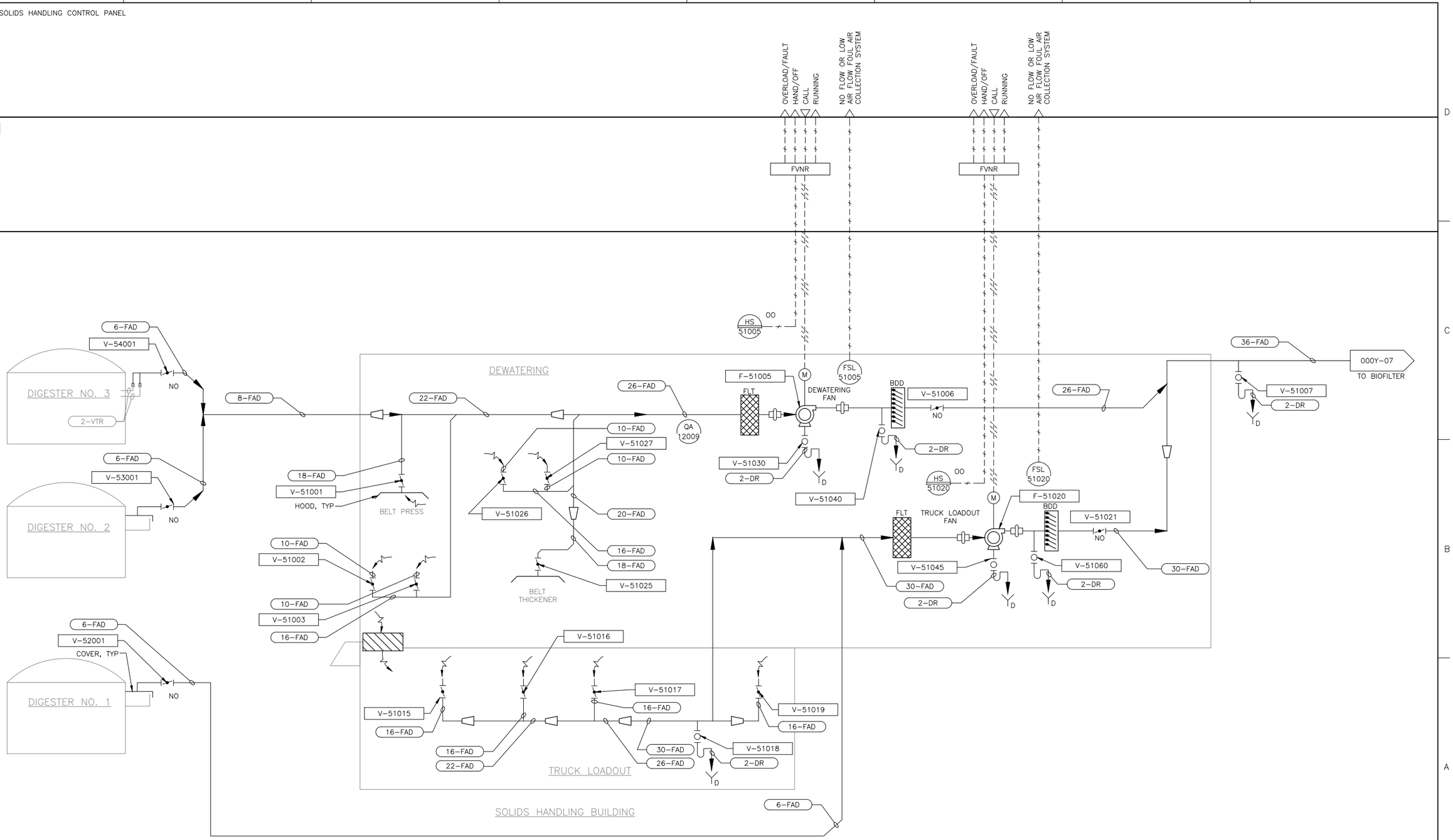
FILENAME	000Y–02.dwg
SCALE	NOT TO SCALE

SHEET 000Y-02

PLC IN SCP – SOLIDS HANDLING CONTROL PANEL

MCC–4

PROCESS



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DESIGNED	HARMON/MANION
	E. SWANSON
DRAWN	H. FANCHER
	P. MCCLINTOCK
CHECKED	J. KOCH
	E. SWANSON
PROJECT NUMBER	171097

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City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

SOLIDS HANDLING FACILITY FOUL AIR COLLECTION PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

FILENAME	000Y–03.dwg
SCALE	NONE

SHEET **000Y-03**

PLC–12000 IN NEW SRCP–SCREENINGS BUILDING CONTROL PANEL

NO FLOW/LOW FLOW FOUL AIR COLLECTION SYSTEM

OVERLOAD/FAULT
HAND/OFF
CALL
RUNNING

MCC–12006E

FVNR

PROCESS

HS 12051

00

FSL 12051

SCREENINGS ROOM

000Y–07
TO BIOFILTER

24–FAD

F–12051

M

FLT

BDD

V–12053
NO

V–12052
2–DR

D

V–12050
2–DR

D

24–FAD

18–FAD
V–12048
NO

10–FAD
V–12080
NO

6–FAD
V–12070
NO

V–12060
NO

18–FAD

HOOD

DUMPSTER

DUMPSTER

6–FAD
NO
V–11001

CONCRETE SLAB

COVER

INFLUENT JUNCTION BOX

(FORMER) GRIT WORKS

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DESIGNED	HARMON/MANION
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DRAWN	H. FANCHER
	P. MCCLINTOCK
CHECKED	J. KOCH
	E. SWANSON
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City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

SCREENINGS BUILDING FOUL AIR COLLECTION PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

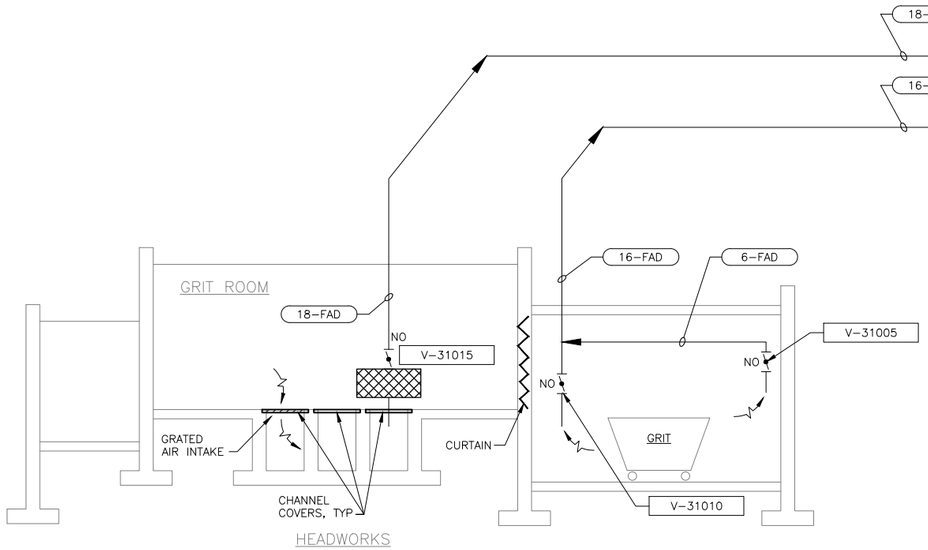
FILENAME	000Y–04.dwg
SCALE	NONE

SHEET **000Y-04**

PLC IN HCP=HEADWORKS CONTROL PANEL

MCC–4

PROCESS



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DESIGNED	HARMON/MANION
DRAWN	H. FANCHER
CHECKED	J. KOCH
PROJECT NUMBER	171097

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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

BIOFILTER FAN BUILDING FOUL AIR COLLECTION PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

FILENAME	000Y–05.dwg
SCALE	NONE

SHEET 000Y-05

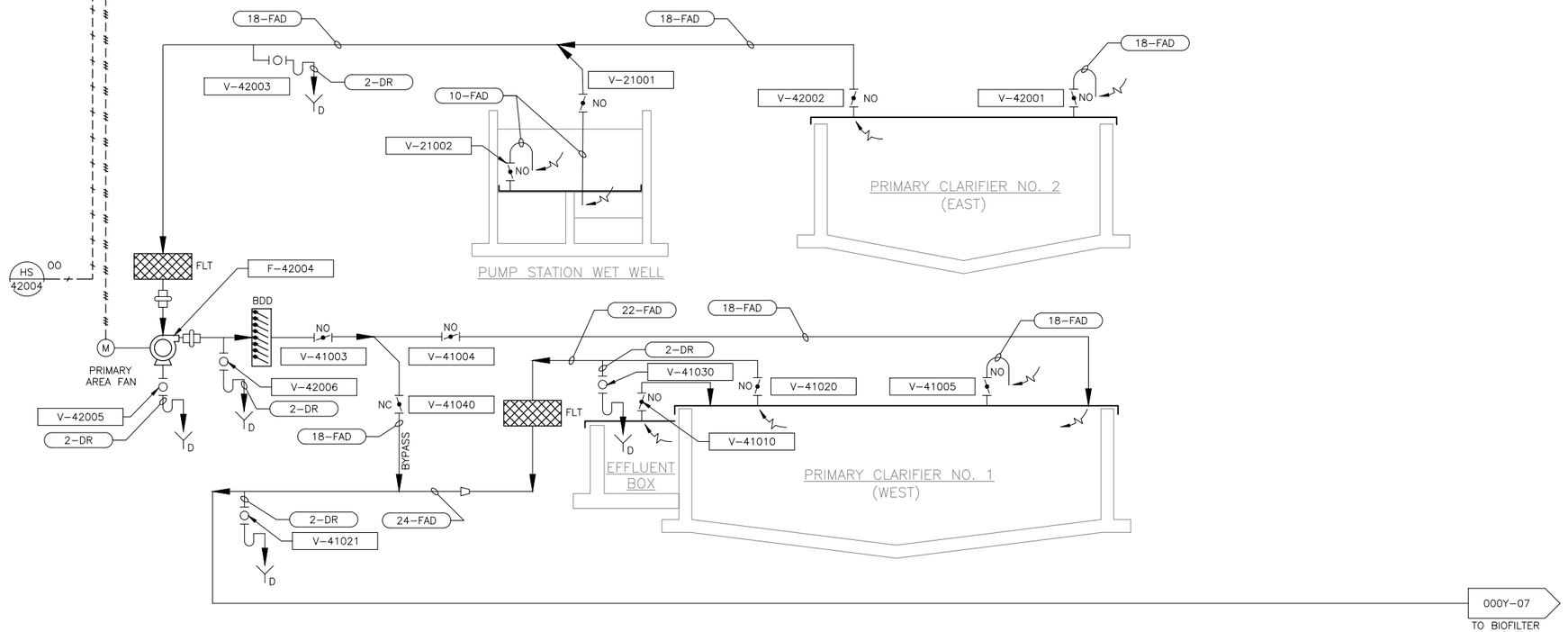
PLC IN HCP–HEAD WORKS CONTROL PANEL

MCC–3

OVERLOAD/FAULT
HAND/OFF
CALL
RUNNING

FVNR

PROCESS



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PROJECT MANAGER	A. MEILLEUR
DESIGNED	HARMON/MANION
	E. SWANSON
DRAWN	H. FANCHER
	P. MCCLINTOCK
CHECKED	J. KOCH
	E. SWANSON
PROJECT NUMBER	171097

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City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

PRIMARY CLARIFIERS & WET WELL FOUL AIR COLLECTION PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

FILENAME	000Y–06.dwg
SCALE	NONE

SHEET **000Y-06**

PLC-12000 IN NEW SRCP-SCREENING BUILDING CONTROL PANEL

OVERLOAD/FAULT
HAND/OFF/AUTO
CALL
RUNNING
NO FLOW/LOW FLOW FOUL AIR COLLECTION SYSTEM

MCC-12006

FVNR

MCC-12006E

FVNR

PROCESS

000Y-04
FROM SCREENINGS BUILDING

000Y-06
FROM PRIMARY CLARIFIERS AND PS WETWELL

000Y-05/A
FROM BIOFILTER FAN BUILDING

000Y-05/B
FROM BIOFILTER FAN BUILDING

000Y-03
FROM SOLIDS HANDLING

24-FAD
18-FAD
16-FAD
36-FAD
42-FAD
30-FAD

FAN ROOM

HS 31031A
HOA
FSL 31031A
M
F-31031A
F-31031B
NO
V-31030A
V-31030B
V-31040
V-31050A
V-31050B
V-31060A
V-31060B
V-31065
V-31070
NC
2-DR
D
BYPASS
HS 91031B
FSL 31050B
V-31032A
V-31032B
V-31033A
V-31033B

BYPASS EXHAUST

BIOFILTER NO. 1
(±2,525 SF EFFECTIVE BED AREA)

BIOFILTER NO. 2
(±2,525 SF EFFECTIVE BED AREA)

BF-91034B
BF-91034A

SPLIT BED BIOFILTER

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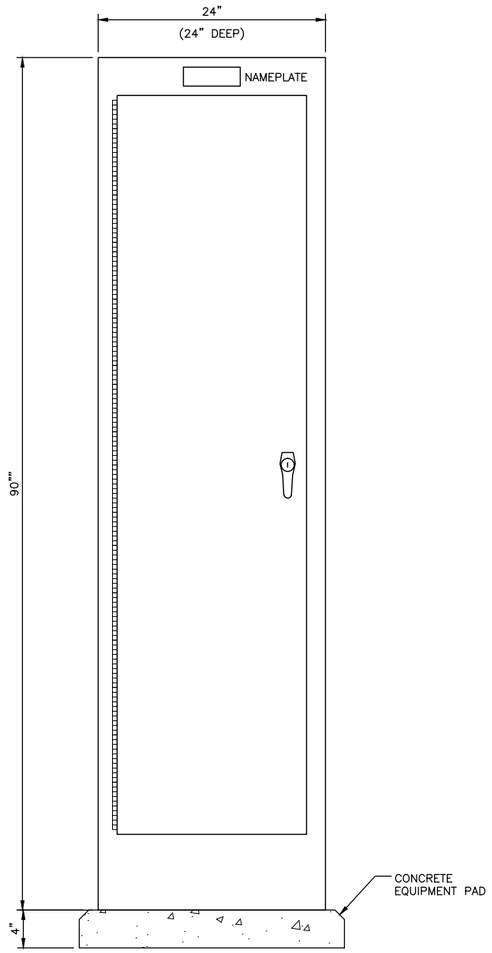
WASTE WATER TREATMENT PLANT IMPROVEMENTS

BIOFILTER FOUL AIR COLLECTION PROCESS AND INTRUMENTATION DIAGRAM

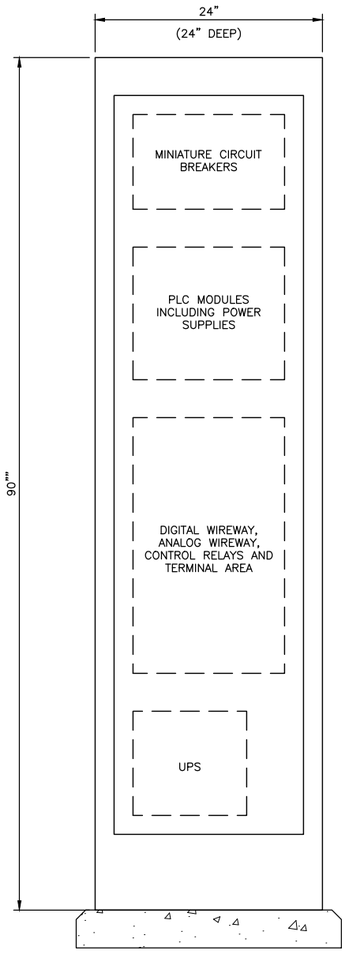
0 1" 2"

FILENAME	000Y-07.dwg
SCALE	NONE

SHEET **000Y-07**



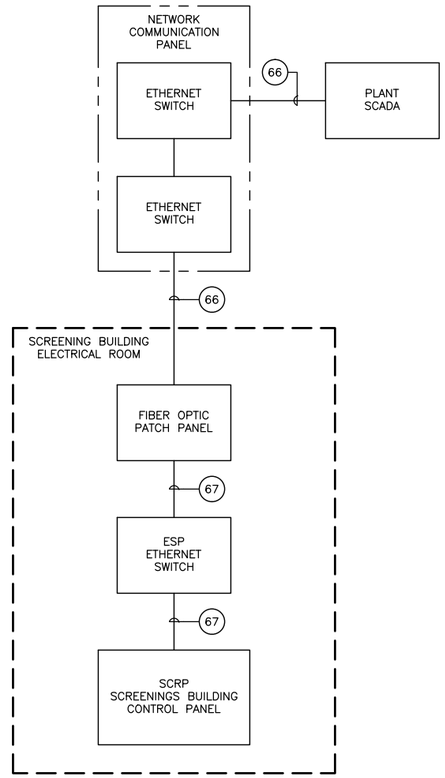
FRONT VIEW ELEVATION – EXTERIOR



FRONT VIEW ELEVATION – INTERNAL

CONTROL PANEL SRCP–12000
SCALE: NONE

CONTROL PANEL SRCP–12000 SCHEDULE		
PANEL IDENTIFICATION	NAMEPLATE LEGEND	NOMINAL WIDTH
SRCP	SCREENINGS BUILDING PLC PANEL	24"
ESP	ESP ETHERNET SWITCH PANEL	24"



NETWORK INTERFACE BLOCK DIAGRAM

NOTES:

1. SECURE CONTROL PANEL TO CONCRETE WITH CONCRETE ANCHORS. SEE DESIGN SHEET 000E–10, DETAIL 8.
2. PANEL ENCLOSURE SHALL BE 24" DEEP. PANEL WIDTH SHALL BE AS REQUIRED TO ACCOMMODATE ALL PANEL COMPONENTS AND WIRE TERMINATIONS. ALL DIMENSIONS ARE NOMINAL.
3. REFER TO BLOCK DIAGRAMS AND SPECIFICATIONS FOR MAJOR PANEL COMPONENTS.
4. REFER TO P&IDs AND I/O SUMMARY LIST FOR SPECIFIC I/O POINTS AND CIRCUITS REQUIRED FOR THIS PANEL.
5. REFER TO PLC I/O WIRING, TYPICAL DIAGRAM FOR PLC I/O WIRING ARRANGEMENTS.
6. PROVIDE A MINI–CIRCUIT BREAKER FOR EACH DISCRETE I/O MODULE.

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DESIGNED	I. RINCON
DRAWN	P. McCLINTOCK
CHECKED	J. KOCH
	E. SWANSON
PROJECT NUMBER	171097

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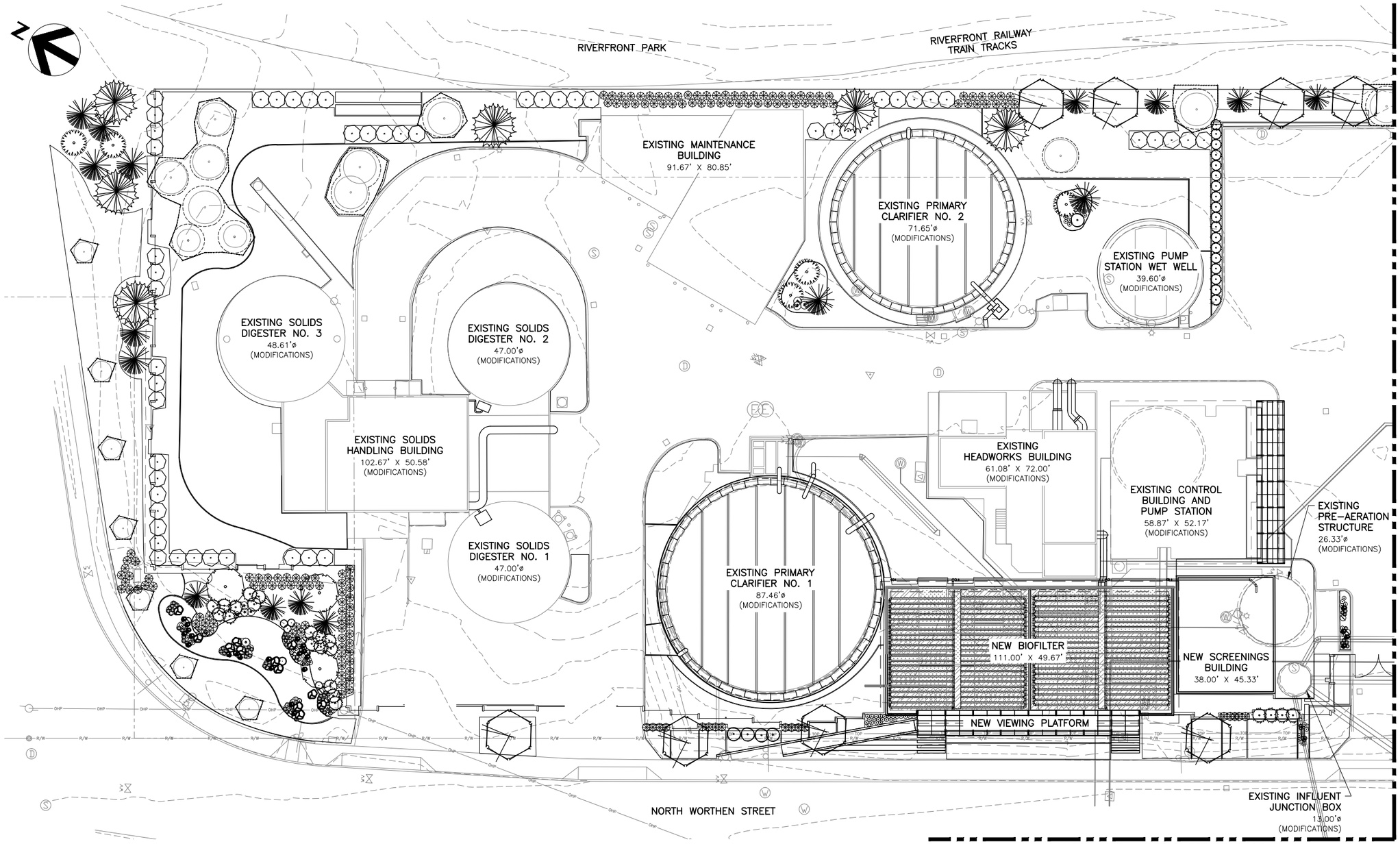
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

CONTROL PANEL ELEVATION

0 1" 2"

FILENAME	000Y–08.dwg
SCALE	NOTED

SHEET
000Y-08



CIVIL SITE PLAN - NORTH

1'-0" = 20'-0"

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DESIGNED	B. DUDZIK
DRAWN	B. LILLY
CHECKED	J. KOCH
PROJECT NUMBER	171097

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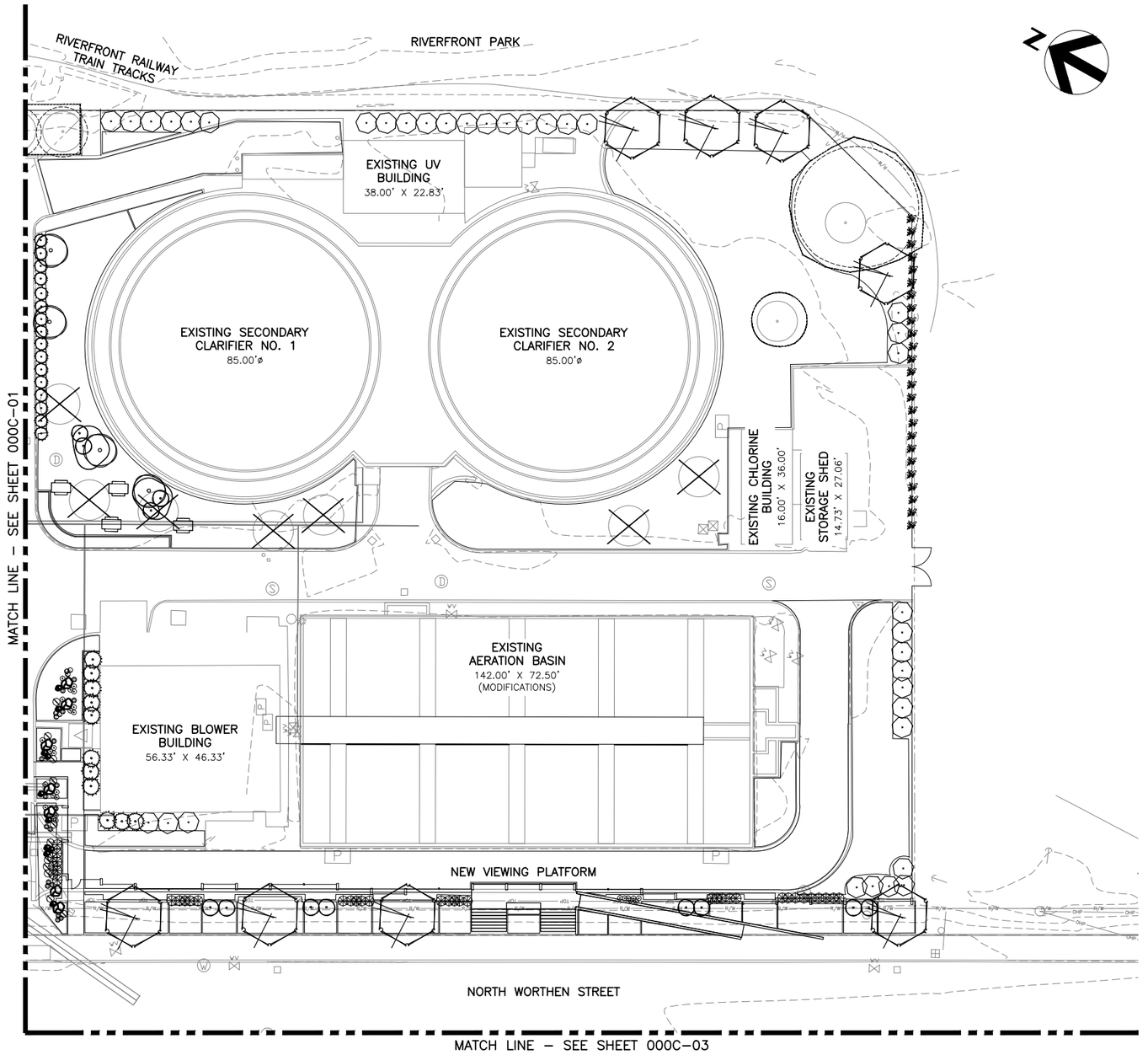
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL
CIVIL SITE PLAN
NORTHEAST SECTION

0 1" 2"

FILENAME	000C-01.dwg
SCALE	AS NOTED

SHEET 000C-01



CIVIL SITE PLAN – SOUTH

1'–0" = 20'–0"

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DESIGNED	B. DUDZIK
DRAWN	B. LILLY
CHECKED	J. KOCH
PROJECT NUMBER	171097

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City of Wenatchee

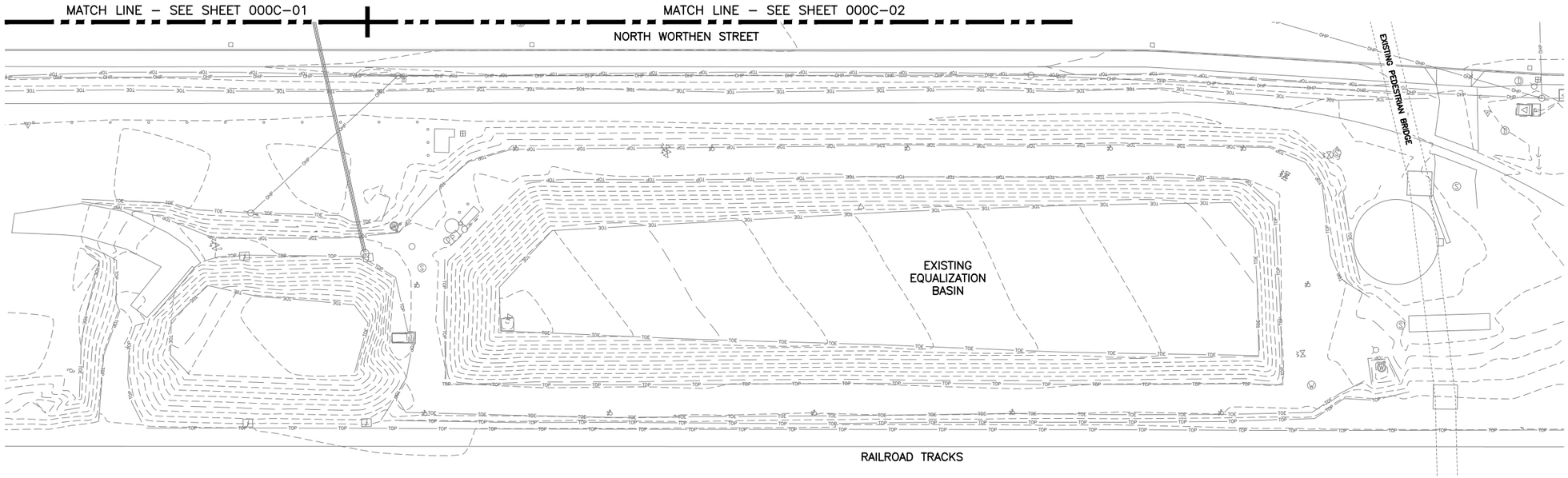
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL
CIVIL SITE PLAN
SOUTHEAST SECTION

0 1" 2"

FILENAME	000C–02.dwg
SCALE	AS NOTED

SHEET **000C-02**



CIVIL SITE PLAN – WEST

1'–0" = 30'–0"

UNDERGROUND SERVICE ALERT
ONE–CALL NUMBER
1–800–424–5555
CALL TWO BUSINESS DAYS BEFORE YOU DIG

HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	B. DUDZIK
DRAWN	B. LILLY
CHECKED	J. KOCH
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

City of Wenatchee

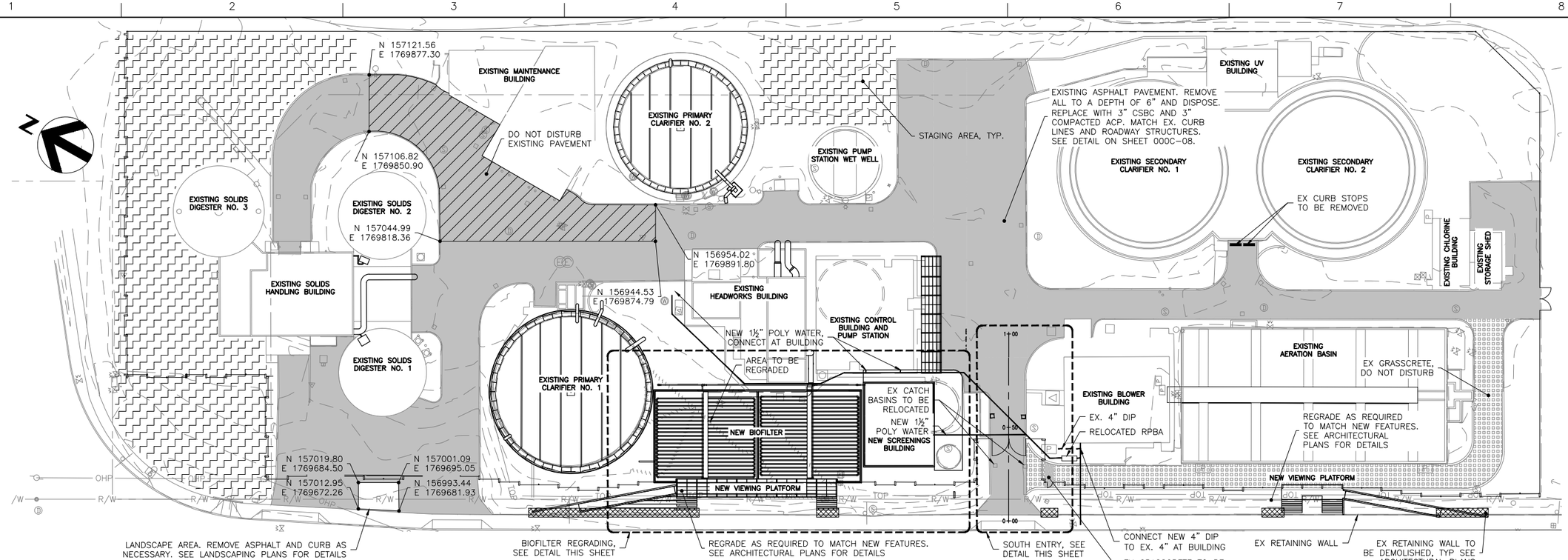
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL
CIVIL SITE PLAN
WEST SECTION

0 1" 2"

FILENAME	000C–03.dwg
SCALE	AS NOTED

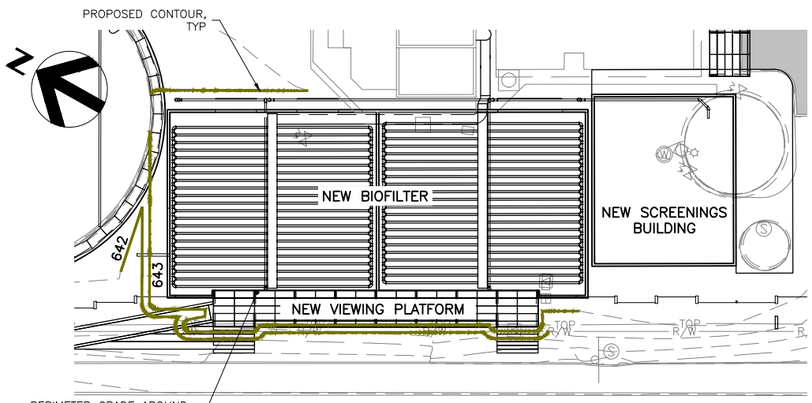
SHEET **000C-03**



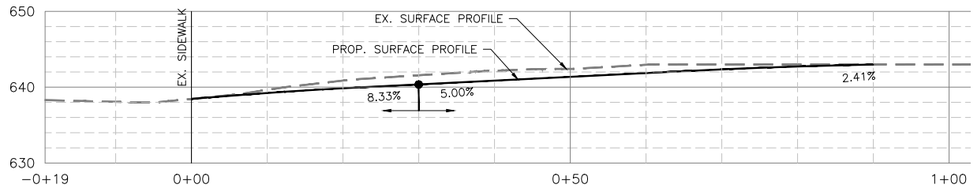
STAGING AND DEMO CIVIL SITE PLAN
1" = 30'-0"

STAGING AREA AND PARKING NOTES
SEE SPECIFICATIONS FOR DETAILS

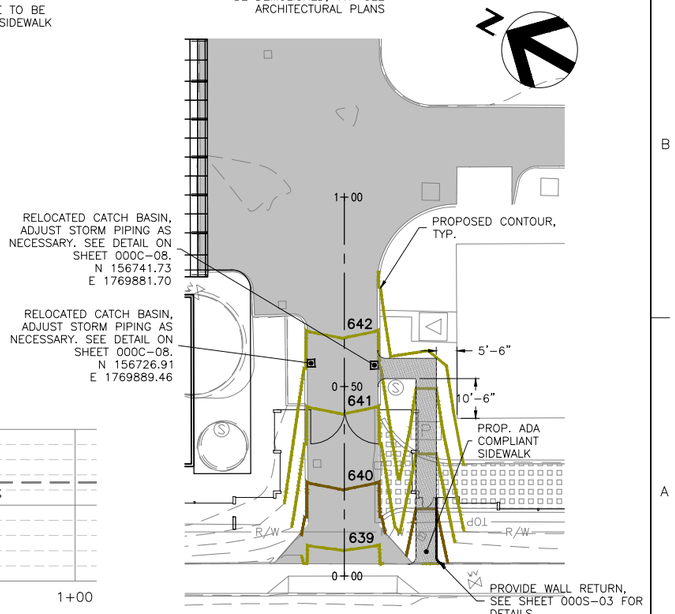
LANDSCAPING AND TREE PROTECTION NOTES
LANDSCAPING NOT SHOWN THIS SHEET FOR CLARITY. SEE LANDSCAPING PLANS FOR TREES TO BE PROTECTED AND REMOVED.



PROPOSED BIOFILTER REGRADING
1" = 20'-0"



SOUTH ENTRY PROFILE
1" = 10'-0"



PROPOSED SOUTH ENTRY
1" = 20'-0"

RH2 ENGINEERS PLANNERS SCIENTISTS

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City of Wenatchee

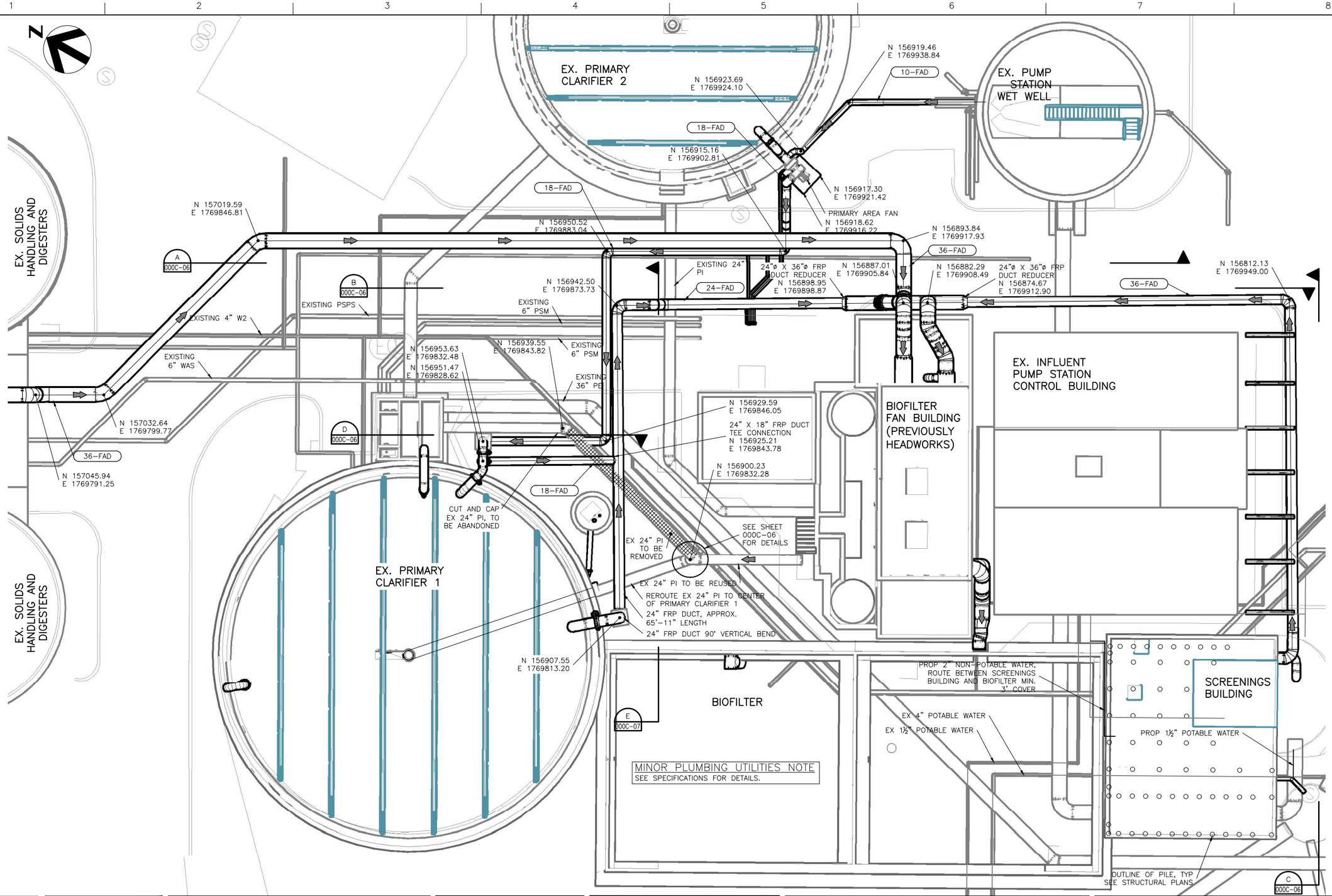
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL
OVERALL CIVIL PROPOSED SITE PLAN, STAGING AND DEMO PLAN

0 1" 2"

FILENAME	000C-04.dwg
SCALE	AS NOTED

SHEET **000C-04**



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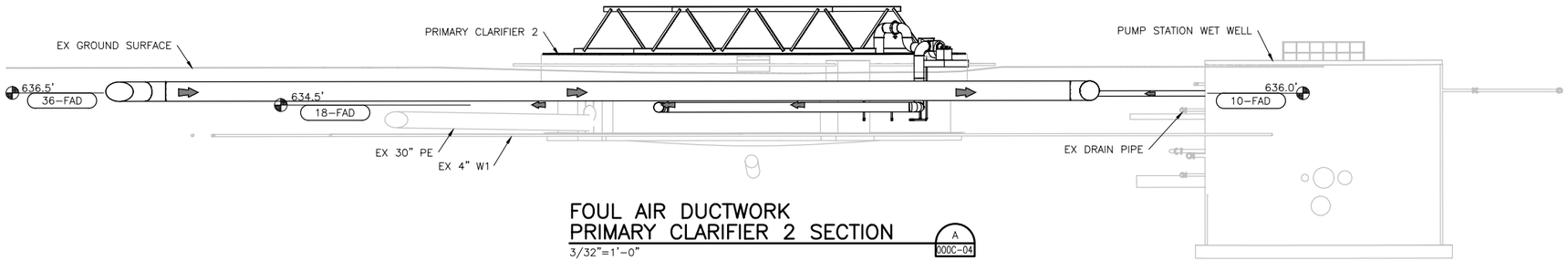
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL CIVIL SITE UTILITY PLAN OVERALL FOUL AIR DUCTWORK AND PROPOSED UTILITIES PLAN

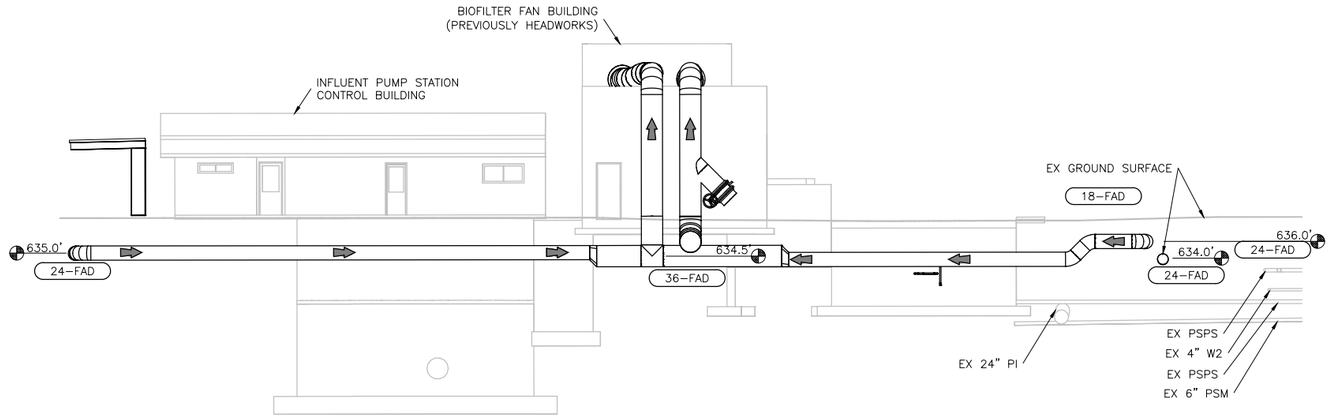
0 1" 2"

FILENAME	000C-05.dwg
SCALE	3/32" = 1'-0"

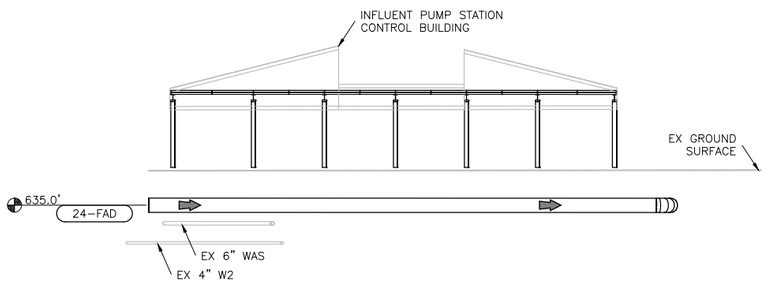
SHEET 000C-05



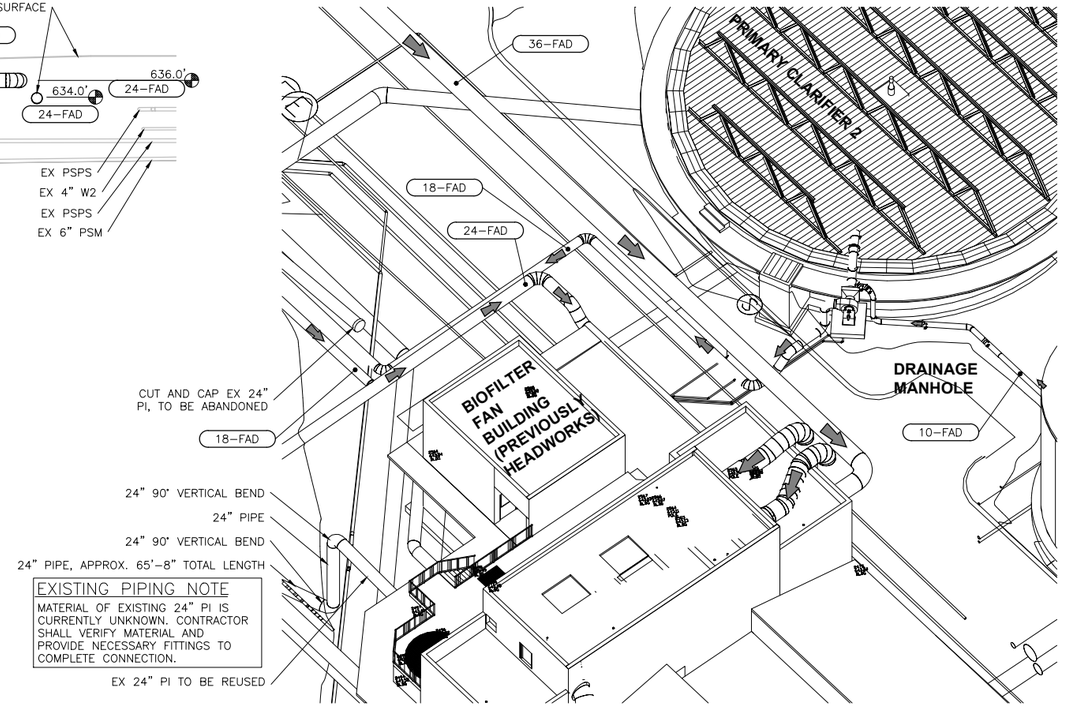
FOUL AIR DUCTWORK
PRIMARY CLARIFIER 2 SECTION
3/32"=1'–0"
A 000C–04



FOUL AIR DUCTWORK HEADWORKS AND INFLUENT
PUMP STATION CONTROL BUILDING SECTION
3/32 = 1'–0"
B 000C–04



FOUL AIR DUCTWORK INFLUENT PUMP
STATION CONTROL BUILDING SECTION
3/32 = 1'–0"
C 000C–04



FOUL AIR DUCTWORK OBLIQUES
NOT TO SCALE

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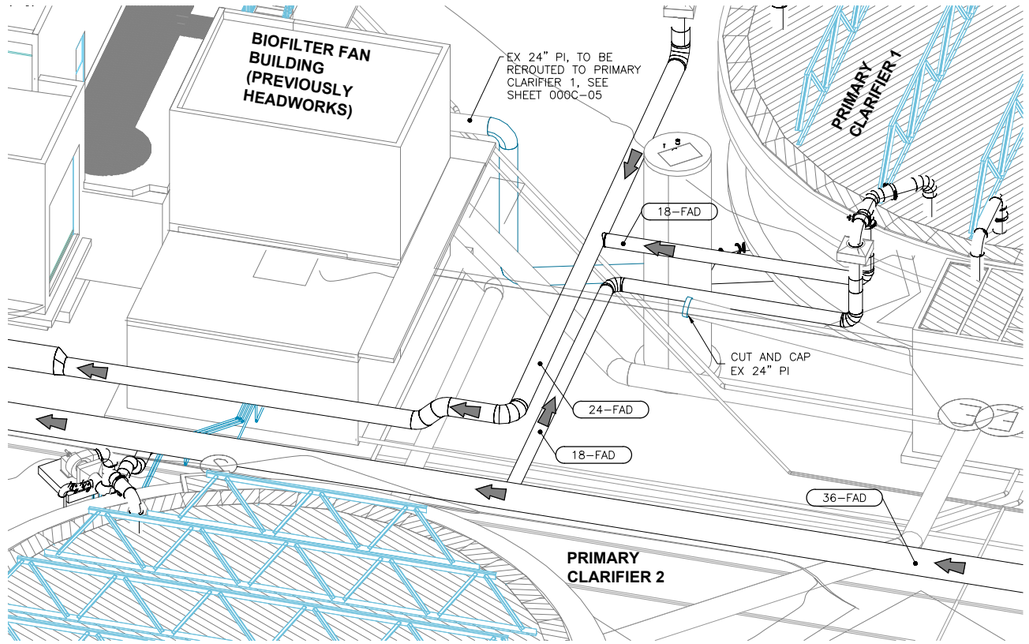
City of Wenatchee
WASTE WATER TREATMENT
PLANT IMPROVEMENTS

GENERAL
OVERALL FOUL AIR DUCTWORK
PROFILE AND OBLIQUES 1

0 1" 2"

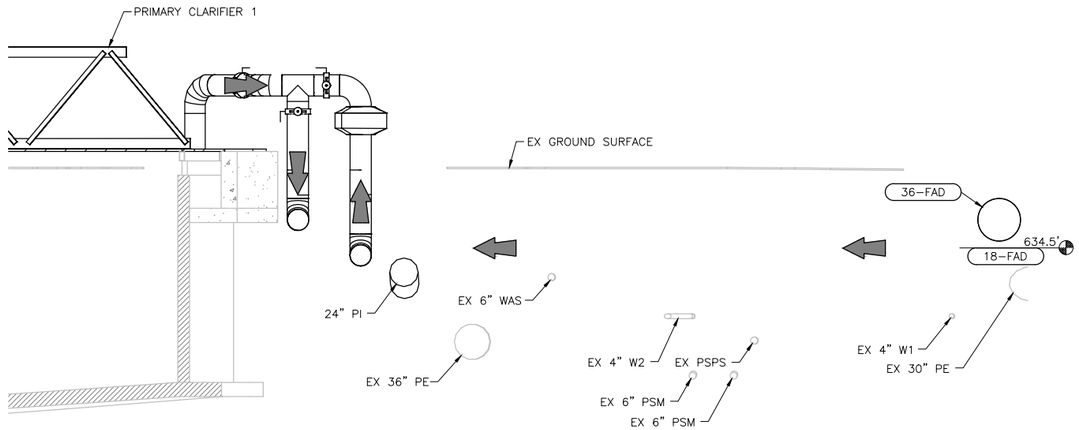
FILENAME	000C–06.dwg
SCALE	AS NOTED

SHEET 000C-06



SOUTHWEST FOUL AIR DUCTING OBLIQUE

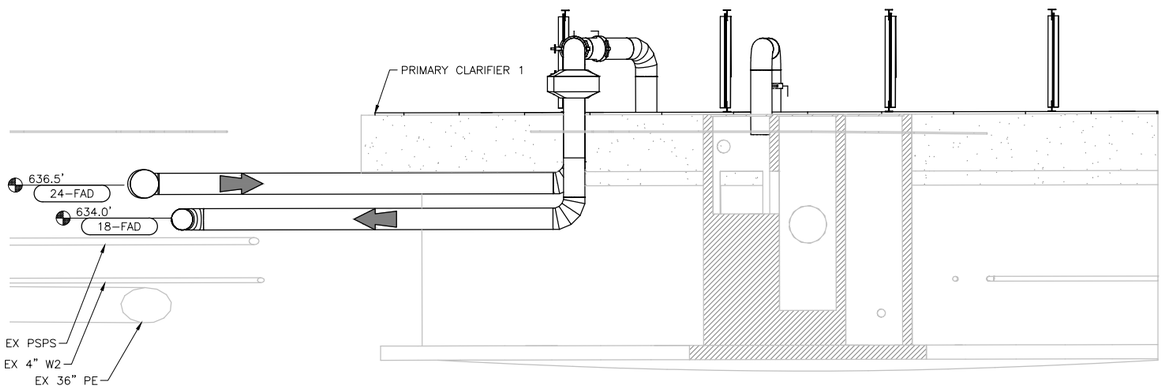
NOT TO SCALE



PRIMARY CLARIFIER 1 DUCTING SECTION 1

3/16" = 1'-0"

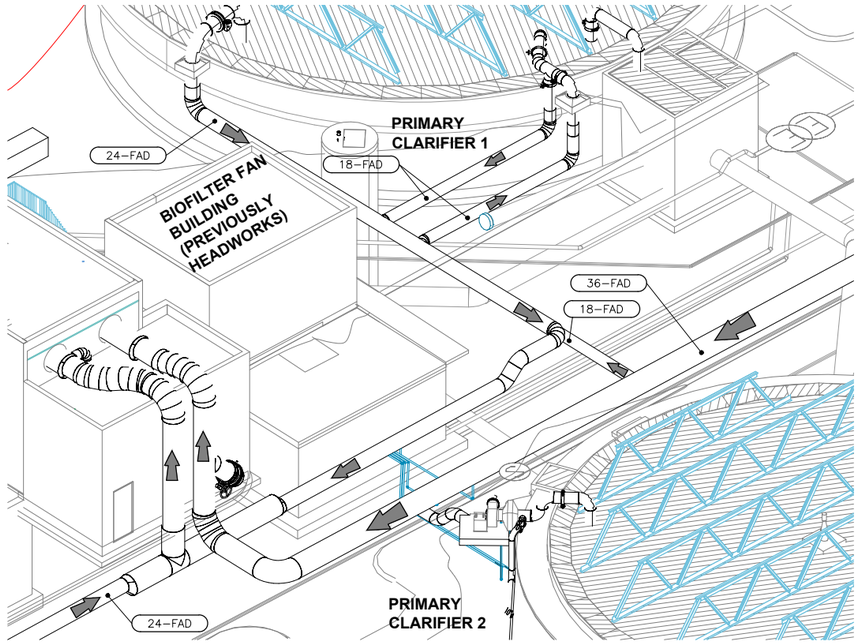
D 000C-04



PRIMARY CLARIFIER 1 DUCTING SECTION 2

3/16" = 1'-0"

E 000C-04



WEST FOUL AIR DUCTING OBLIQUE

NOT TO SCALE

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City of Wenatchee

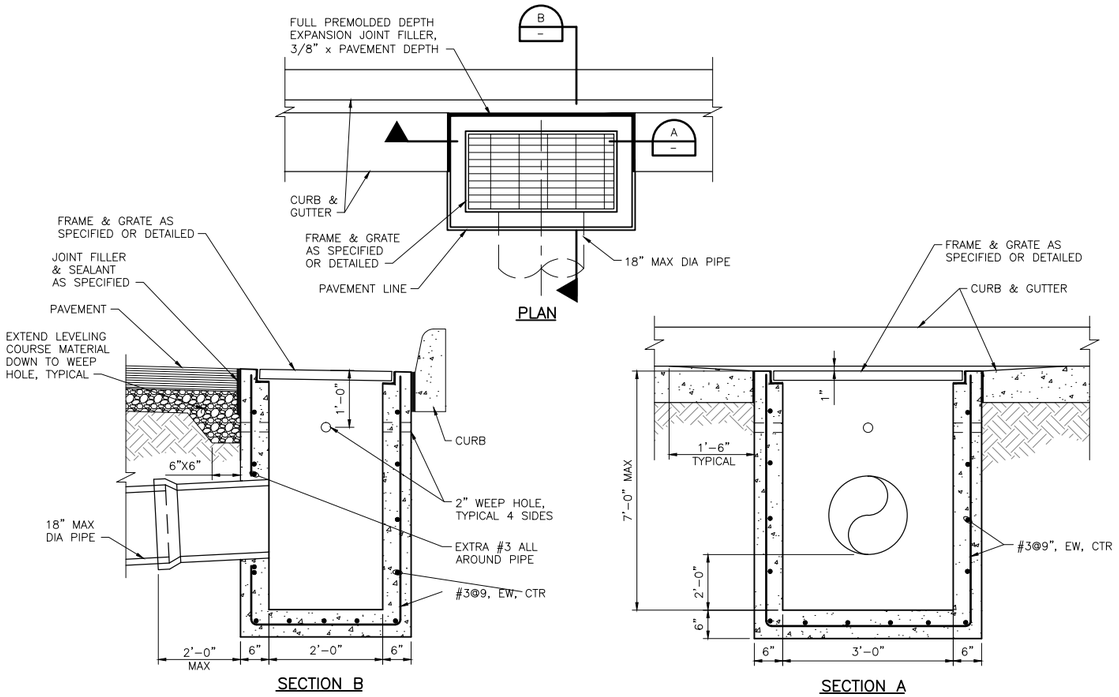
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL
OVERALL FOUL AIR DUCTWORK PROFILE AND OBLIQUES 2

0 1" 2"

FILENAME	000C-07.dwg
SCALE	AS NOTED

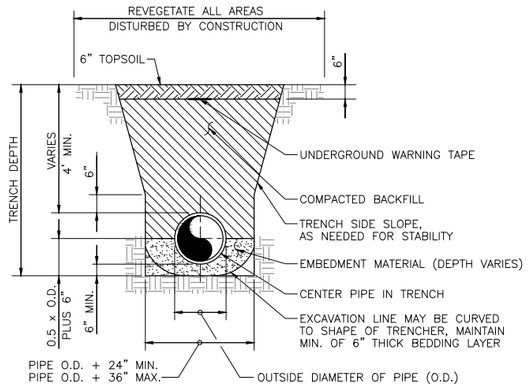
SHEET **000C-07**



CATCH BASIN

NOT TO SCALE

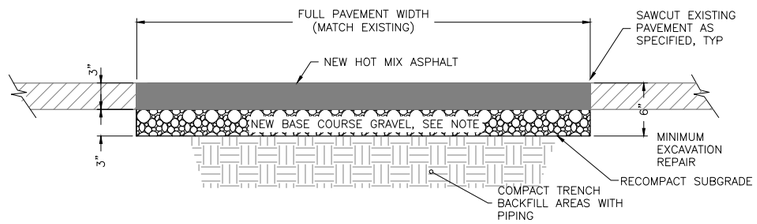
A 000C-04



TYPICAL PIPE EMBEDMENT DIMENSIONS DETAIL

NOT TO SCALE

B 000C-04



NOTE:
BASE COURSE GRAVEL SHALL CONSIST OF A MINIMUM OF 3 INCHES OF CRUSHED SURFACE BASE COURSE.

PAVEMENT SURFACE REPAIR

NOT TO SCALE

C 000C-04

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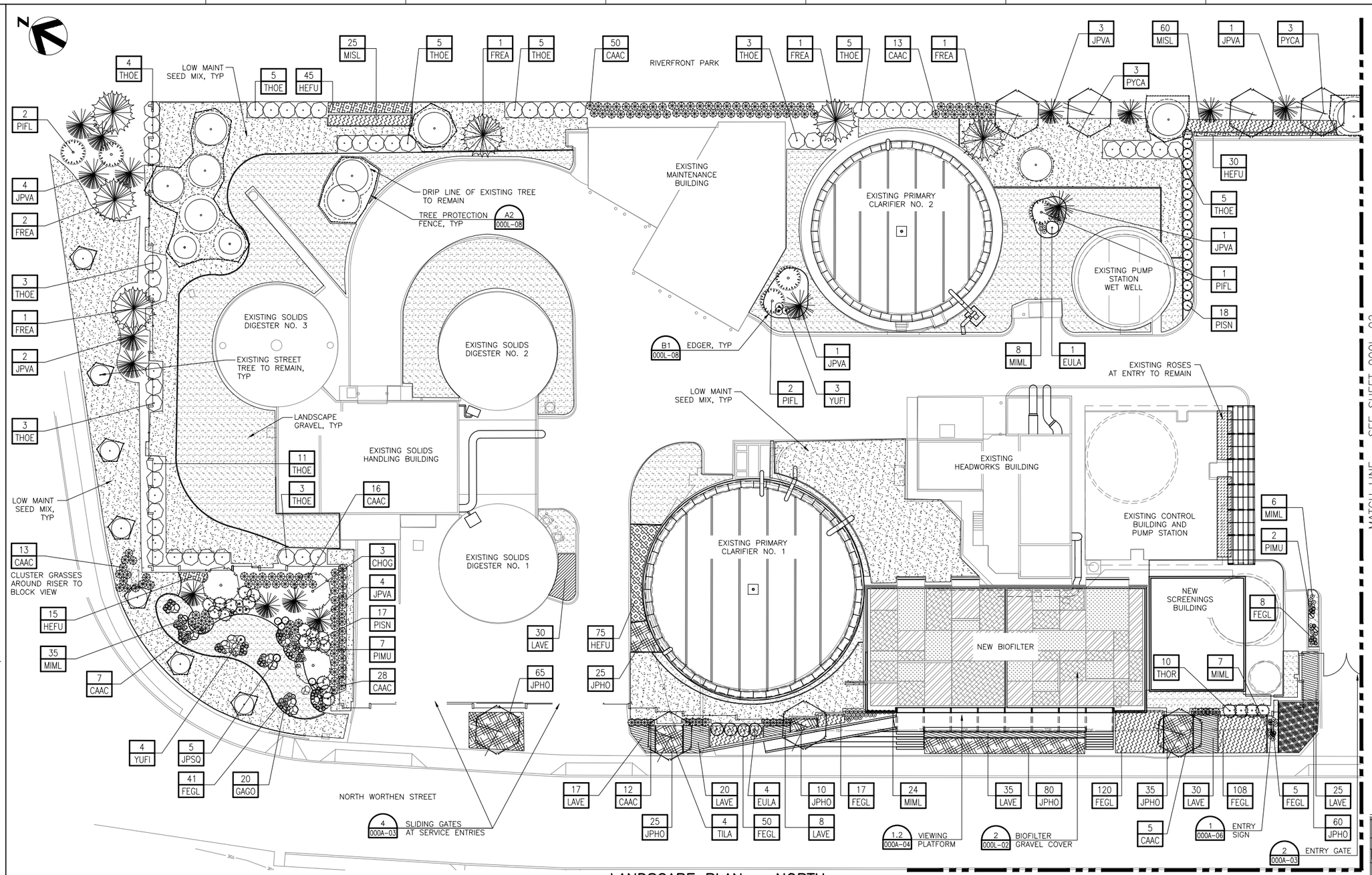
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL CIVIL SITE DETAILS

0 1" 2"

FILENAME	000C-08.dwg
SCALE	NOT TO SCALE

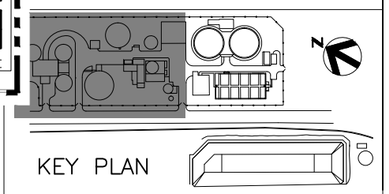
SHEET **000C-08**



LANDSCAPE PLAN – NORTH
1'–0" = 20'–0"

GENERAL NOTES
1. SEE SHEET 000L–07 FOR PLANT MATERIAL SCHEDULE, QUANTITIES, SPECIES AND SIZES
2. SEE SHEET 000C–01 FOR SITE PLAN
3. ALL PLANT MATERIAL TO BE IRRIGATED; SEE SHEET 000–L04 AND 000–L06 FOR IRRIGATION PLANS
4. CALL BEFORE DIGGING: DIAL 811 MIN 2 DAYS IN ADVANCE

LEGEND
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- EXISTING TREE DRIPLINE
- EVERGREEN TREE
- DECIDUOUS TREE
- SHRUBS/UNDERSTORY
- SMALL SHRUBS / GROUNDCOVERS
- LANDSCAPE BOULDERS
- QTY PLANT — PLANT MATERIAL TAG
- GROUND COVERS
- ORNAMENTAL GRASSES
- LOW MAINTENANCE SEEDED LAWN
- EXISTING REINFORCED LAWN RESEED WITH LOW MAINT SEED AS NECESSARY
- LANDSCAPE GRAVEL
- B1– LAVA ROCK – COLOR RED
- B2– GRAVEL – CONTRASTING COLOR
- B3– LAVA ROCK – COLOR BROWN
- R1– LAVA ROCK – COLOR RED
- R2– GRAVEL – CONTRASTING COLOR
- R3– LAVA ROCK – COLOR BROWN



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City of Wenatchee

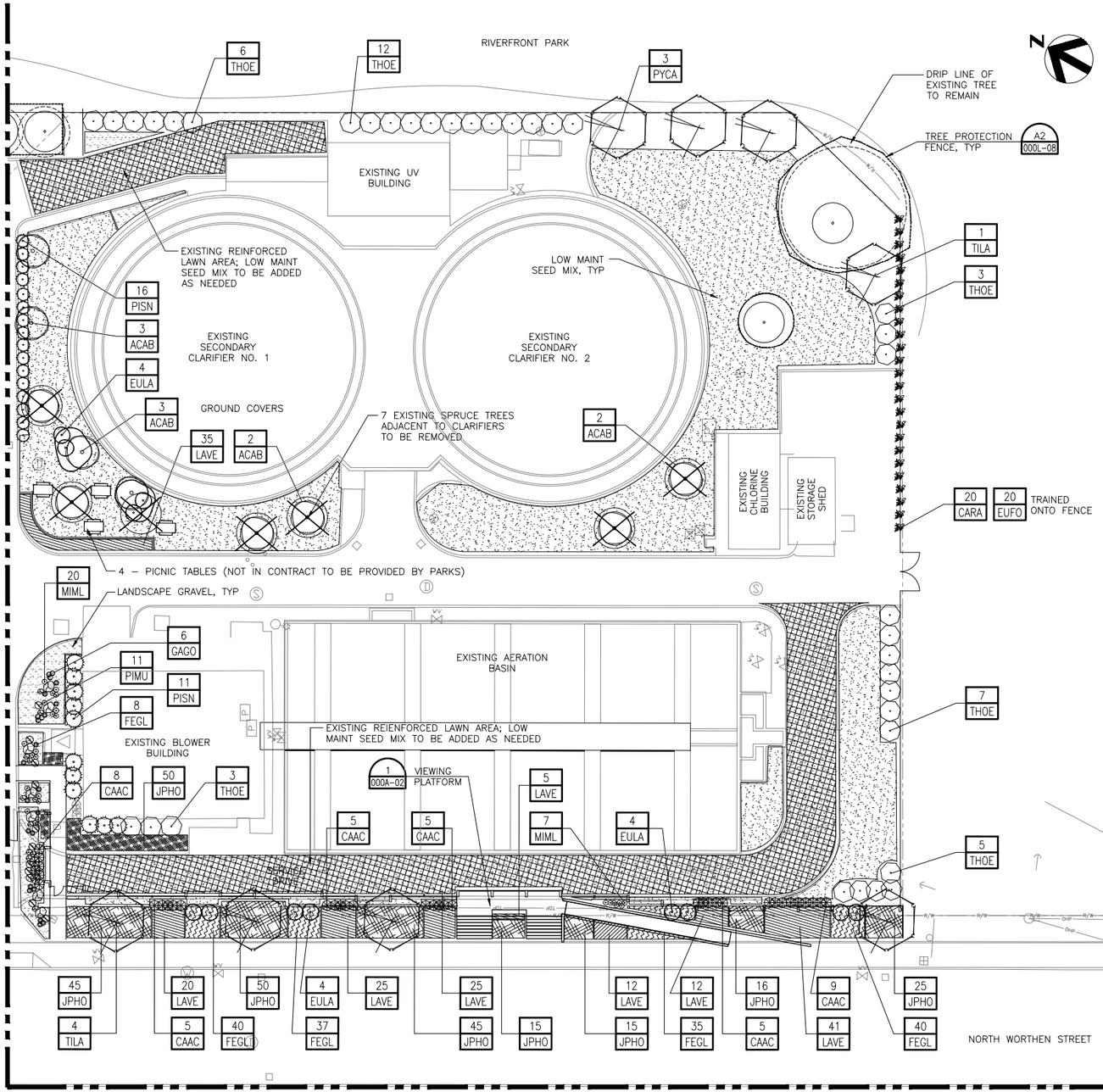
WASTE WATER TREATMENT PLANT IMPROVEMENTS

LANDSCAPE PLAN NORTH

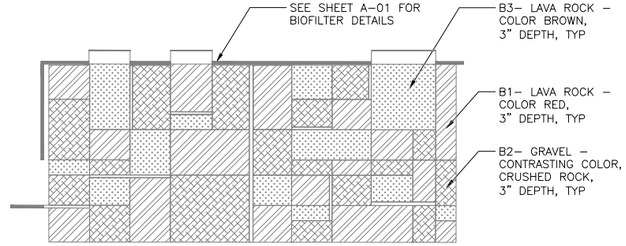
0 1" 2"

FILENAME	000L–01.dwg
SCALE	AS NOTED

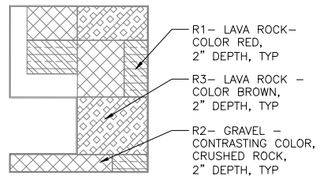
SHEET **000L-01**



LANDSCAPE PLAN – SOUTH
1'–0" = 20'–0"



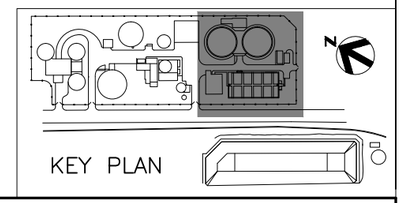
BIOFILTER GRAVEL PLAN
1'–0" = 20'–0"
2 / 000L-01



NEW SCREENINGS BUILDING ROOF GRAVEL PLAN
1'–0" = 20'–0"
3 / 000L-01

GENERAL NOTES
1. SEE SHEET 000L–07 FOR PLANT MATERIAL SCHEDULE, QUANTITIES, SPECIES AND SIZES
2. SEE SHEET 000C–01 FOR SITE PLAN
3. ALL PLANT MATERIAL TO BE IRRIGATED; SEE SHEET 000–L04 AND 000–L06 FOR IRRIGATION PLANS
4. CALL BEFORE DIGGING: DIAL 811 MIN 2 DAYS IN ADVANCE

LEGEND
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- EXISTING TREE DRIPLINE
- EVERGREEN TREE
- DECIDUOUS TREE
- SHRUBS/UNDERSTORY
- SMALL SHRUBS / GROUNDCOVERS
- LANDSCAPE BOULDERS
- QTY / PLANT — PLANT MATERIAL TAG
- GROUND COVERS
- ORNAMENTAL GRASSES
- LOW MAINTENANCE SEEDED LAWN
- EXISTING REINFORCED LAWN RESEED WITH LOW MAINT SEED AS NECESSARY
- LANDSCAPE GRAVEL
- B1– LAVA ROCK – COLOR RED
- B2– GRAVEL – CONTRASTING COLOR
- B3– LAVA ROCK – COLOR BROWN
- R1– LAVA ROCK – COLOR RED
- R2– GRAVEL – CONTRASTING COLOR
- R3– LAVA ROCK – COLOR BROWN



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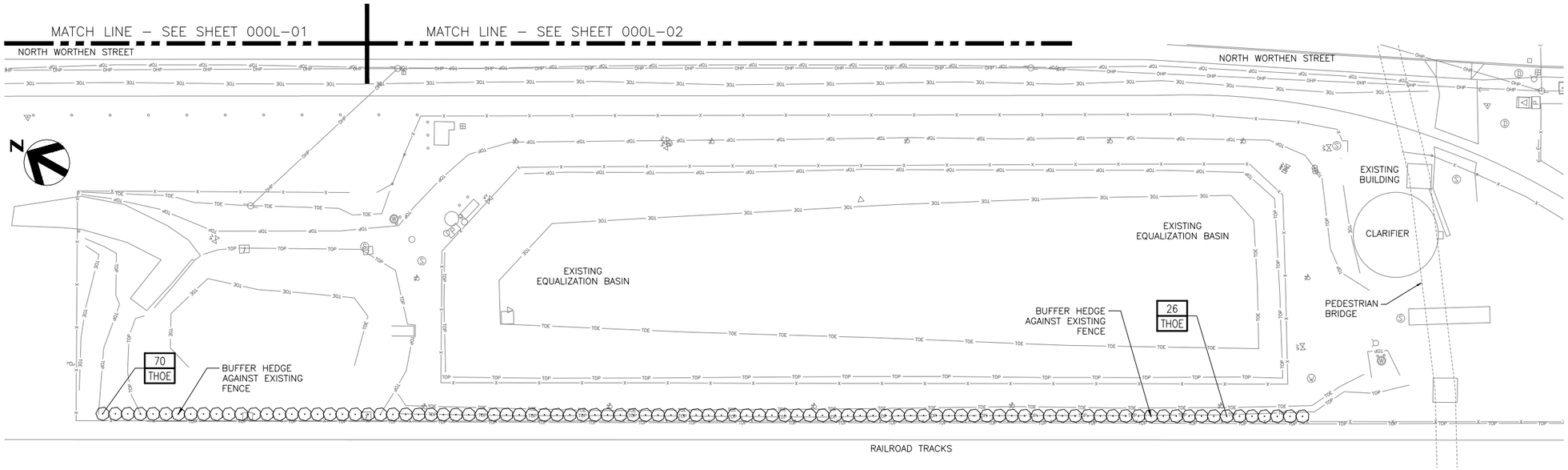
WASTE WATER TREATMENT PLANT IMPROVEMENTS

LANDSCAPE PLAN SOUTH

0 1" 2"

FILENAME	000L–02.dwg
SCALE	AS NOTED

SHEET **000L-02**



LANDSCAPE PLAN – EQUALIZATION BASIN NORTH

1'–0" = 30'–0"

GENERAL NOTES

1. SEE SHEET 000L–07 FOR PLANT MATERIAL SCHEDULE, QUANTITIES, SPECIES AND SIZES
2. SEE SHEET 000C–01 FOR SITE PLAN
3. ALL PLANT MATERIAL TO BE IRRIGATED; SEE SHEET 000–L04 AND 000–L06 FOR IRRIGATION PLANS
4. CALL BEFORE DIGGING: DIAL 811 MIN 2 DAYS IN ADVANCE

LEGEND

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- EXISTING TREE DRIPLINE
- EVERGREEN TREE
- DECIDUOUS TREE
- SHRUBS/UNDERSTORY
- SMALL SHRUBS / GROUNDCOVERS
- LANDSCAPE BOULDERS
- QTY / PLANT — PLANT MATERIAL TAG
- GROUND COVERS
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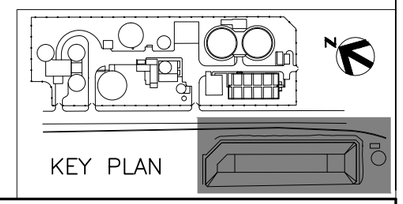
- R1– LAVA ROCK – COLOR RED
- R2– GRAVEL – CONTRASTING COLOR
- R3– LAVA ROCK – COLOR BROWN



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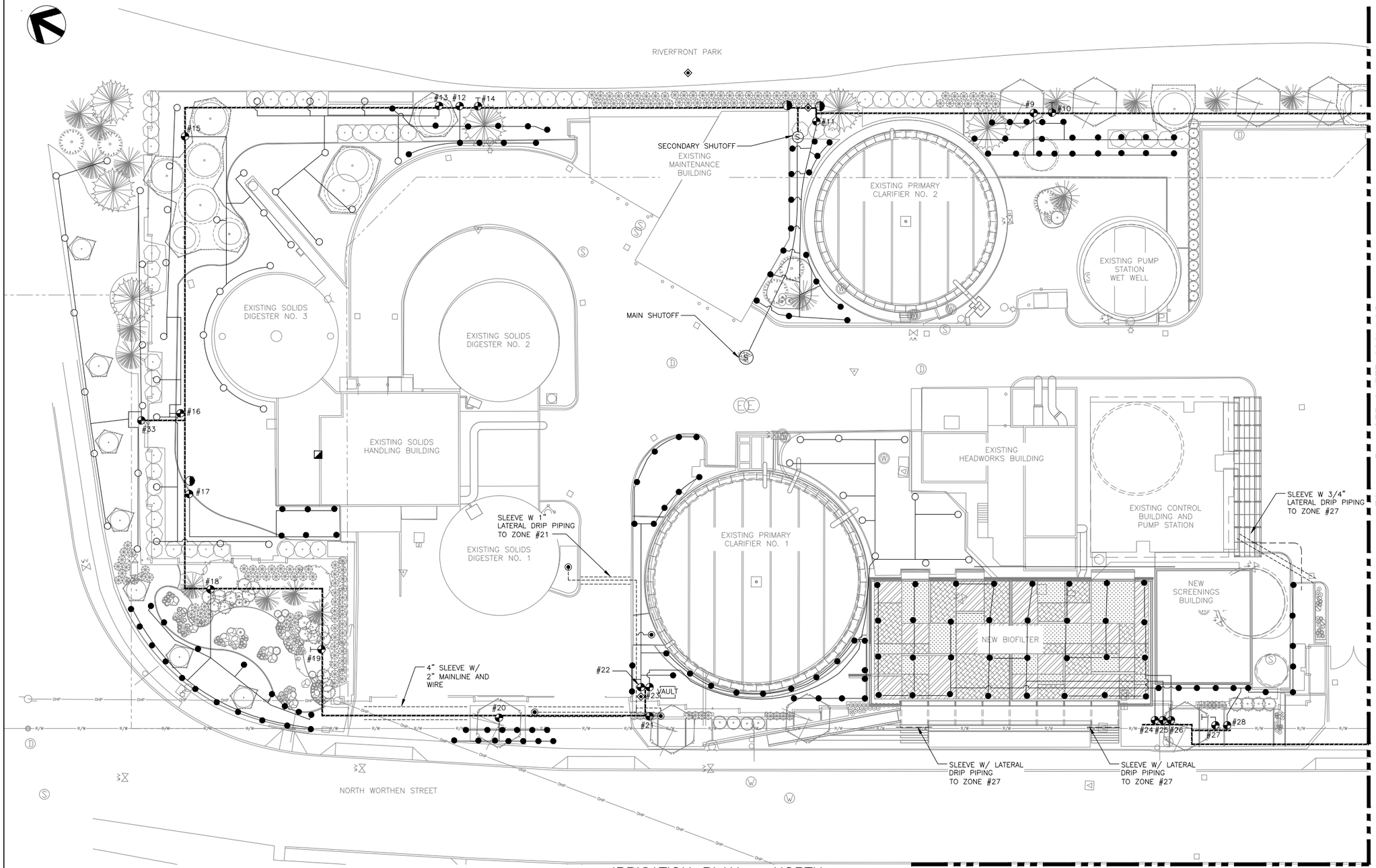
WASTE WATER TREATMENT PLANT IMPROVEMENTS

LANDSCAPE PLAN EQUALIZATION BASIN

0 1" 2"

FILENAME	000L–03.dwg
SCALE	AS NOTED

SHEET **000L-03**



IRRIGATION PLAN – NORTH

1'–0" = 20'–0"

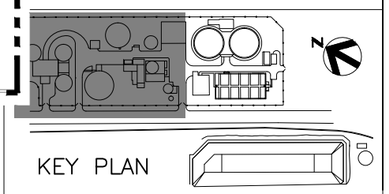
GENERAL NOTES

1. ALL TREES TO BE ON A SEPARATE ZONE WITH DRIP TUBES
2. VALVE BOXES TO BE LOCATED IN LANDSCAPE BEDS
3. ALL RAINBIRD HEADS TO BE INSTALLED WITH MATCHED PRECIPITATION RATE (MPR) NOZZLES
4. SPRAY ZONES TO BE OPERATED AT 30 PSI FOR OPTIMAL HEAD PERFORMANCE
5. CALL BEFORE DIGGING: DIAL 811 MIN 2 DAYS IN ADVANCE

LEGEND

- IRRIGATION SOURCE
- IRRIGATION CONTROLLER
- QUICK COUPLING VALVE
- REMOTE CONTROL VALVE RAINBIRD PEB SERIES (1" & 1.5")
- BACKFLOW PREVENTER FEBCO SERIES 825Y (1")
- MASTER CONTROL VALVE RAINBIRD EFB–CP SERIES (1")
- PRESSURE REGULATOR
- WYE FILTER WILKINS S SERIES (1")
- ISOLATION BALL VALVE DTL/L16
- 2" MAINLINE
- SLEEVING 4" PVC CLASS 200
- PVC LATERAL LINE
- PVC TO POLYETHYLENE CONNECTION
- ROTOR HEAD
- SPRAY HEAD
- SPRAY HEAD FOR GRASS PAVE AREAS

MATCH LINE – SEE SHEET 000L–05



KEY PLAN

UNDERGROUND SERVICE ALERT
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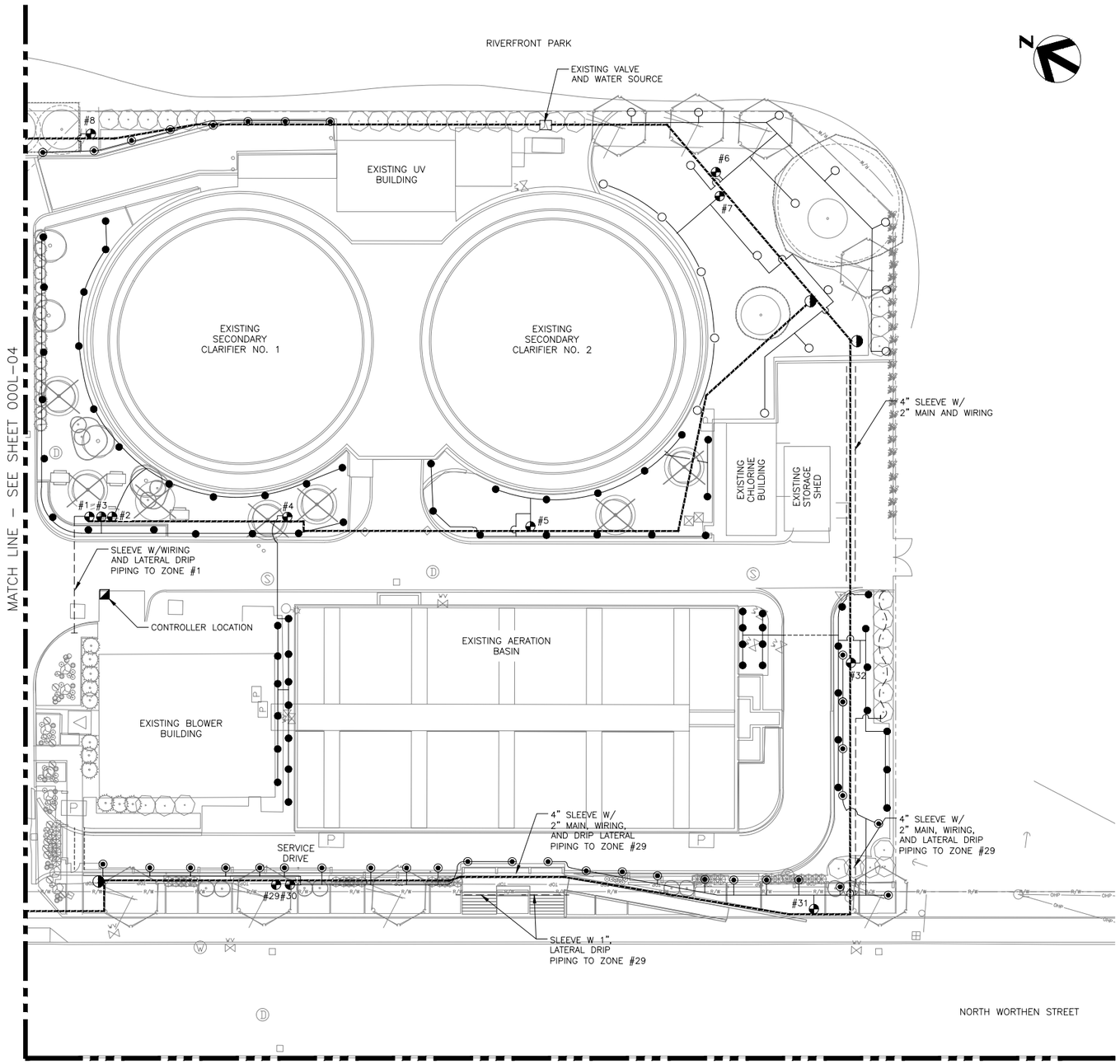
WASTE WATER TREATMENT PLANT IMPROVEMENTS

IRRIGATION PLAN NORTH

0 1" 2"

FILENAME	000L–04.dwg
SCALE	AS NOTED

SHEET **000L-04**



IRRIGATION PLAN – SOUTH

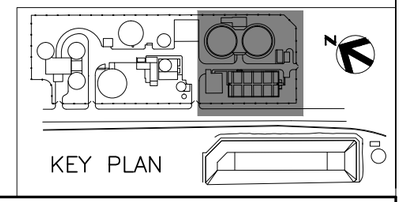
1'-0" = 20'-0"

GENERAL NOTES

1. ALL TREES TO BE ON A SEPARATE ZONE WITH DRIP TUBES
2. VALVE BOXES TO BE LOCATED IN LANDSCAPE BEDS
3. ALL RAINBIRD HEADS TO BE INSTALLED WITH MATCHED PRECIPITATION RATE (MPR) NOZZLES
4. SPRAY ZONES TO BE OPERATED AT 30 PSI FOR OPTIMAL HEAD PERFORMANCE
5. CALL BEFORE DIGGING: DIAL 811 MIN 2 DAYS IN ADVANCE

LEGEND

- IRRIGATION SOURCE
- IRRIGATION CONTROLLER
- QUICK COUPLING VALVE
- REMOTE CONTROL VALVE RAINBIRD PEB SERIES (1" & 1.5")
- BACKFLOW PREVENTER FEBCO SERIES 825Y (1")
- MASTER CONTROL VALVE RAINBIRD EFB-CP SERIES (1")
- PRESSURE REGULATOR
- WYE FILTER WILKINS S SERIES (1")
- ISOLATION BALL VALVE DTL/L16
- 2" MAINLINE
- SLEEVING 4" PVC CLASS 200
- PVC LATERAL LINE
- PVC TO POLYETHYLENE CONNECTION
- ROTOR HEAD
- SPRAY HEAD
- SPRAY HEAD FOR GRASS PAVE AREAS



UNDERGROUND SERVICE ALERT
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HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	B. POWERS/ S. HOEBER
DRAWN	S. HOEBER
CHECKED	G. LAI
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

City of Wenatchee

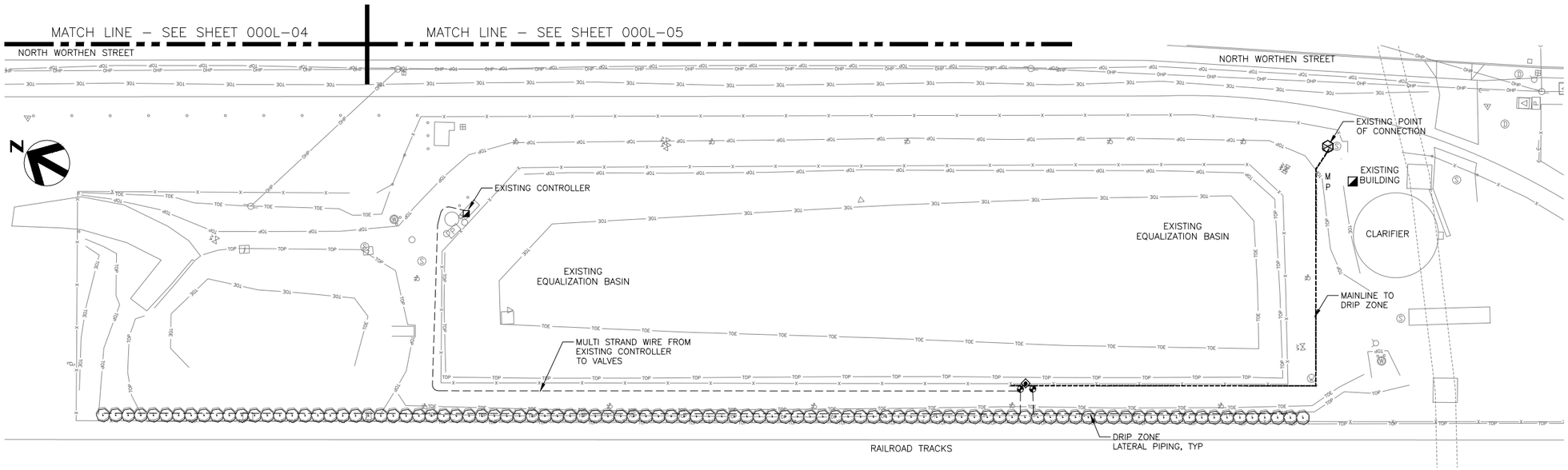
WASTE WATER TREATMENT PLANT IMPROVEMENTS

IRRIGATION PLAN SOUTH

0 1" 2"

FILENAME	000L-05.dwg
SCALE	AS NOTED

SHEET **000L-05**



IRRIGATION PLAN – EQUALIZATION BASIN NORTH

1'–0" = 30'–0"

#31

GENERAL NOTES

1. ALL TREES TO BE ON A SEPARATE ZONE WITH DRIP TUBES
2. VALVE BOXES TO BE LOCATED IN LANDSCAPE BEDS
3. ALL RAINBIRD HEADS TO BE INSTALLED WITH MATCHED PRECIPITATION RATE (MPR) NOZZLES
4. SPRAY ZONES TO BE OPERATED AT 30 PSI FOR OPTIMAL HEAD PERFORMANCE
5. CALL BEFORE DIGGING: DIAL 811 MIN 2 DAYS IN ADVANCE

LEGEND

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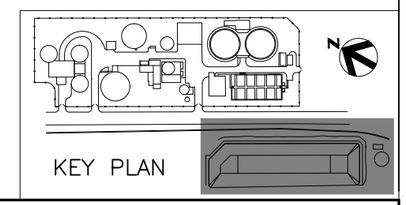

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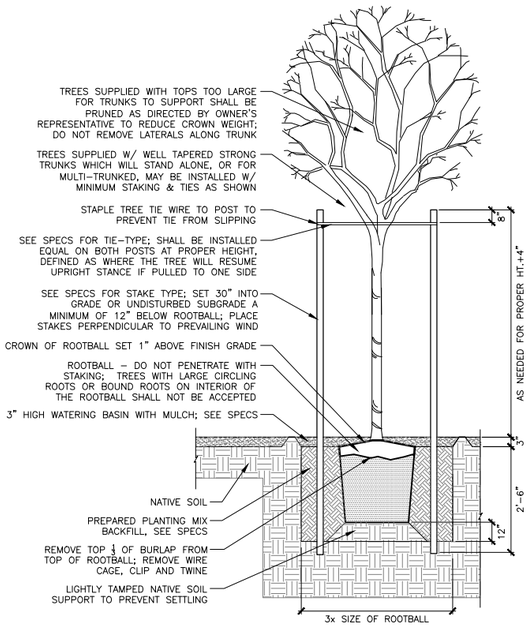
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

IRRIGATION PLAN EQUALIZATION BASIN

0 1" 2"

FILENAME	000L–06.dwg
SCALE	AS NOTED

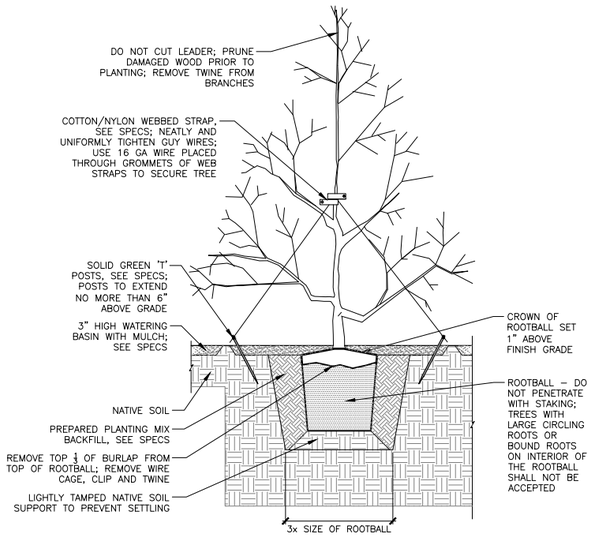
SHEET **000L-06**



DECIDUOUS TREE PLANTING

NOT TO SCALE

A1 000L-07



EVERGREEN TREE PLANTING

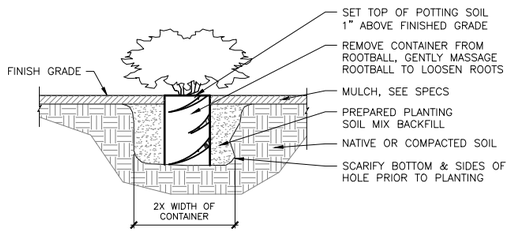
NOT TO SCALE

A2 000L-07

PLANTING SCHEDULE

TREES				
QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	NOTES
4	ACAB	ACER RUBRUM 'KARPICK'	KARPICK RED MAPLE	B&B, 2" CAL
3	CHOG	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	15 GALLON CONT.
6	FREA	FRAXINUS PENNSYLVANICA 'SUMMIT'	'SUMMIT' GREEN ASH	2" CAL
16	JPVA	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	5 GALLON CONT
6	PIFL	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID'	VANDERWOLFS' PYRAMID PINE	4'-5' HT
9	PYCA	PYRUS CALLERYANA 'CAPITAL'	CAPITAL PEAR	2'' CAL BALL & BURLAP
9	TILA	ACER RUBRUM 'FAIRVIEW FLAME'	FAIRVIEW FLAME RED MAPLE	
184	THOE	THUJA OCCIDENTALIS 'EMERALD'	EMERALD AMERICAN ARBORVITAE	3'-5' HT, FULL
10	THOR	THUJA OCCIDENTALIS 'RHEINGOLD'	RHEINGOLD AMERICAN ARBORVITAE	5 GALLON CONT
247		TOTAL		
SHRUBS & GROUNDCOVERS				
QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	SIZE & CONDITION
17	EULA	EUONYMUS ALATA	BURNING BUSH	2 GALLON CONT
26	GAGO	GAILLARDIA GRANDIFLORA 'GOBLIN'	GOBLIN BLANKET FLOWER	6" POT, FULL
165	HEFU	HEMEROCALLIS 'STELLA DE ORO'	DWARF DAYLILLY	1 GALLON CONT, FULL
561	JPHO	DIANTHUS CARYOPHYLLUS	PINK AND RED DIANTHUS	1 GALLON CONT, FULL
5	JPSQ	JUNIPERUS SQUAMATA 'BLUE STAR'	BLUE STAR JUNIPER	1 GALLON CONT, FULL
340	LAVE	LAVANDULA ANGUSTIFOLIA 'MUNSTEAD'	MUNSTEAD LAVENDER	1 GALLON CONT, FULL
20	PIMU	PINUS MUGO 'COMPACTA'	COMPACT MUGO PINE	1 GALLON CONT, FULL
56	PISN	PINUS STROBUS 'BLUE SHAG'	EASTERN WHITE PINE	2 GALLON CONT
7	YUFI	YUCCA FILAMENTOSA	ADAM'S NEEDLE	1 GALLON CONT, FULL
1197		TOTAL		
GRASSES				
QUANTITY		BOTANICAL NAME	COMMON NAME	SIZE & CONDITION
181	CAAC	CALAMAGROSTIS ACUTIFLORA 'KARL FOERS.'	KARL FOERSTER FEATHER REED GRASS	1 GALLON CONT, FULL
85	MISL	MISCANTHUS SINENSIS 'SILBERFEDER'	SILVER FEATHER GRASS	1 GAL, FULL
107	MIML	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT MISCANTHUS	1 GAL, FULL
517	FEGL	FESTUCA GLAUCA 'SEA URCHIN'	SEA URCHIN BLUE FESCUE	1 GALLON CONT, FULL
890		TOTAL		
VINES				
QUANTITY		BOTANICAL NAME	COMMON NAME	SIZE & CONDITION
20	CARA	CAMPSIS RADICANS	TRUMPET VINE	1 GALLON CONT, 18" OC, TRAINED ON FENCE
20	EUFO	EUONYMOUS FORTUNEI	WINTERCREEPER	1 GALLON CONT, 18" OC, TRAINED ON FENCE
40		TOTAL		
SEED MIXES				
QUANTITY		TYPE	SEED MIX	NOTES
2,564	SF	SEED TYPE A - 'LAWN'	MOUNTAIN VIEW MIX	OR APPROVED EQUAL, SEE SPECIFICATIONS
2,564	SF	TOTAL		
	CY	BARK DUST	3" DEPTH - IN ALL LANDSCAPE BEDS	SEE SPECIFICATIONS, ENGINEER APPROVED
15	CY	LANDSCAPE GRAVEL	LOCAL ROUND RIVER ROCK - 3" DEPTH	SEE SPECIFICATIONS, ENGINEER APPROVED
18	CY	B1 GRAVEL - BIOFILTER COVER	LAVA ROCK - COLOR RED	SEE SPECIFICATIONS, ENGINEER APPROVED
17	CY	B2 GRAVEL - BIOFILTER COVER	CONTRASTING COLOR CRUSHED ROCK	SEE SPECIFICATIONS, ENGINEER APPROVED
11	CY	B3 GRAVEL - BIOFILTER COVER	LAVA ROCK - COLOR BROWN	SEE SPECIFICATIONS, ENGINEER APPROVED
	CY	R1 GRAVEL - ROOF COVER	LAVA ROCK - COLOR RED	SEE SPECIFICATIONS, ENGINEER APPROVED
	CY	R2 GRAVEL - ROOF COVER	CONTRASTING COLOR CRUSHED GRAVEL	SEE SPECIFICATIONS, ENGINEER APPROVED
	CY	R3 GRAVEL - ROOF COVER	LAVA ROCK - COLOR BROWN	SEE SPECIFICATIONS, ENGINEER APPROVED
61	CY	TOTAL		
52	EA	LANDSCAPE BOULDERS	LOCAL REGIONAL STONE (2-3 MAN SIZED)	SEE SPECIFICATIONS, ENGINEER APPROVED

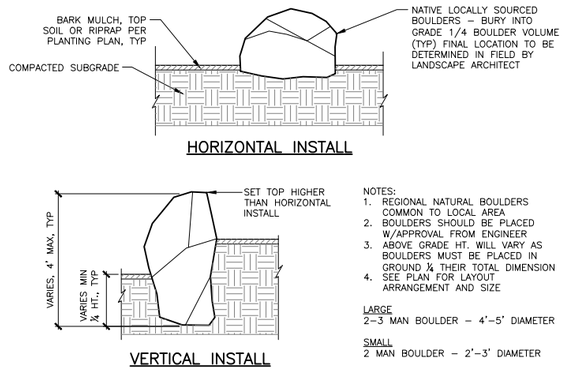
NOTE:
1) PLANTINGS AT NORTH GATE ENTRY - COLUMNAR HORNBEAM, BURNING BUSH, DIANTHUS
2) DIANTHUS TYPES: "FIVE STAR", "SHOOTING STAR", "RASPBERRY SURPRISE"



SHRUBS PLANTING

NOT TO SCALE

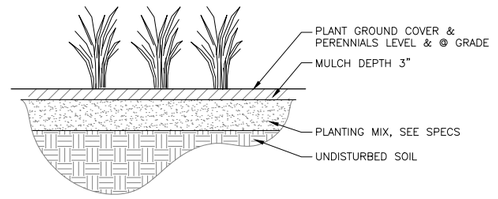
B1 000L-07



LANSCAPE BOULDERS

NOT TO SCALE

B2 000L-07



PERENNIAL & GROUND COVER

NOT TO SCALE

B3 000L-07

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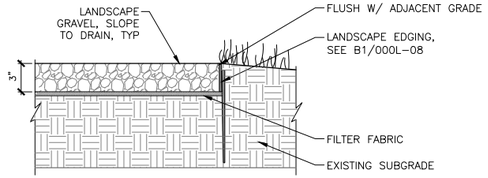
WASTE WATER TREATMENT PLANT IMPROVEMENTS

PLANTING DETAILS

0 1" 2"

FILENAME	000L-07.dwg
SCALE	AS NOTED

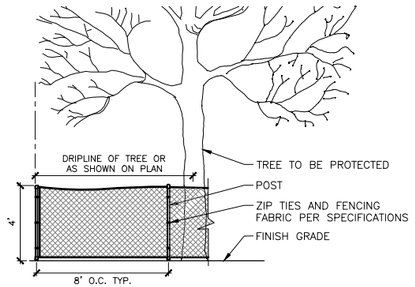
SHEET 000L-07



LANDSCAPE GRAVEL

NOT TO SCALE

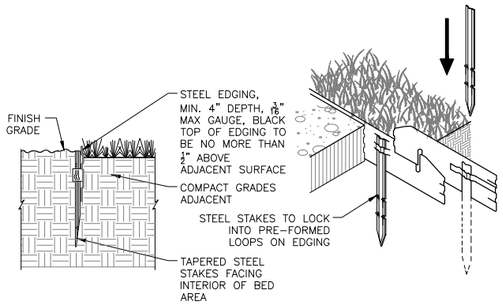
A1 000L-08



TREE PROTECTION FENCING

NOT TO SCALE

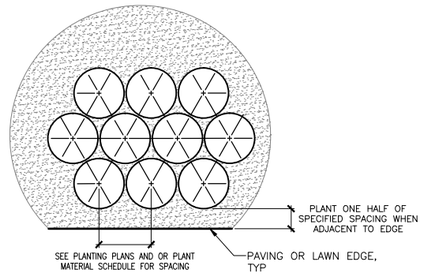
A2 000L-08



LANDSCAPE EDGING

NOT TO SCALE

B1 000L-08

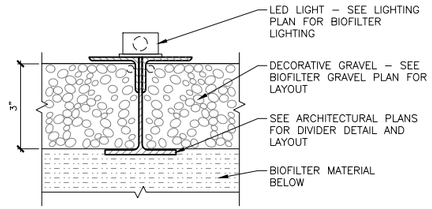


NOTES:
1. ALL GROUNDCOVER SHALL BE PLANTED @ EQ TRIANGULAR SPACING OR OC SPACING AS SPECIFIED ON THE PLANTING PLAN AND OR PLANT MATERIAL SCHEDULE
2. LOCATE GROUNDCOVER ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY CURB, SIDEWALK, OR OTHER HARD SURFACE, UNLESS OTHERWISE SPECIFIED

GROUNDCOVER PLANTING

NOT TO SCALE

B2 000L-08



BIOFILTER PLANTING

NOT TO SCALE

B3 000L-08

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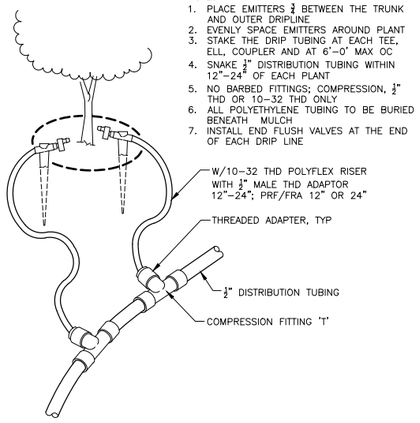
WASTE WATER TREATMENT PLANT IMPROVEMENTS

LANDSCAPE DETAILS

0 1" 2"

FILENAME	000L-08.dwg
SCALE	AS NOTED

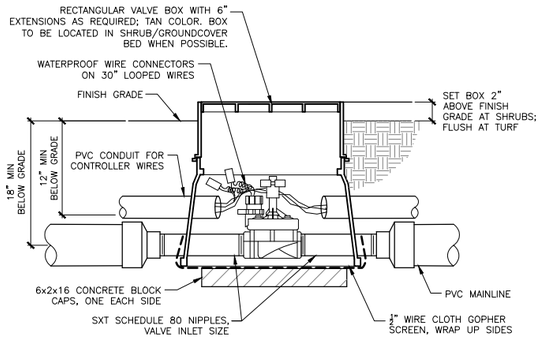
SHEET 000L-08



DRIP SYSTEM SCHEMATIC

A1 000L-09

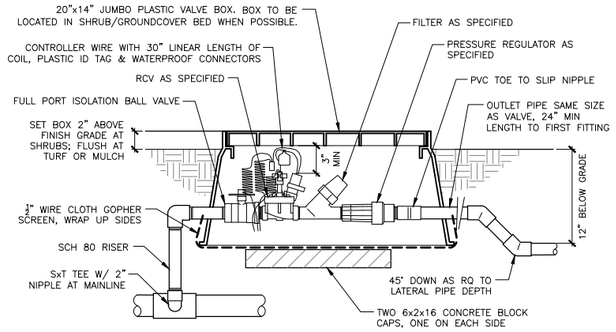
NOT TO SCALE



MASTER CONTROL VALVE

A2 000L-09

NOT TO SCALE

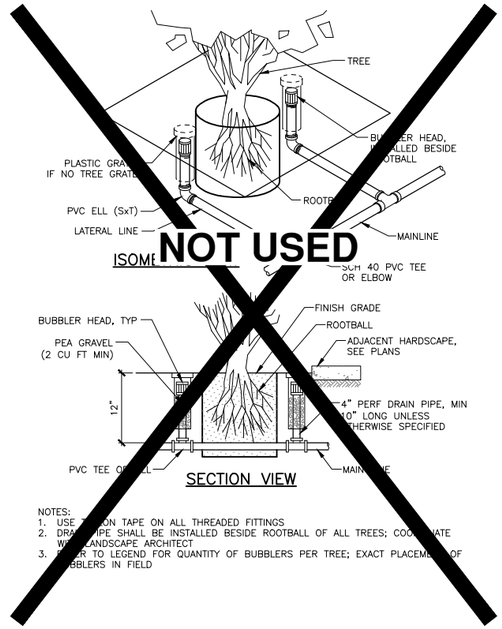


NOTE: BALL VALVES TO BE INSTALLED BEFORE ZONE CLUSTER VALVES, NOT BEFORE EACH INDIVIDUAL REMOTE CONTROL VALVE

3/4" – 1-1/2" DRIP VALVE/FILTER REGULATOR

A3 000L-09

NOT TO SCALE

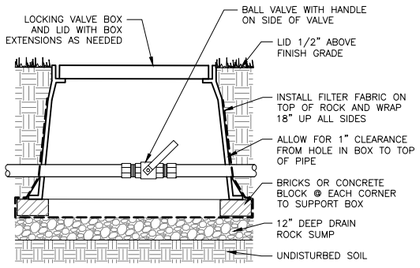


NOTES:
1. USE TEFLON TAPE ON ALL THREADED FITTINGS
2. DRAIN PIPE SHALL BE INSTALLED BESIDE ROOTBALL OF ALL TREES; COORDINATE WITH LANDSCAPE ARCHITECT
3. REFER TO LEGEND FOR QUANTITY OF BUBBLERS PER TREE; EXACT PLACEMENT OF BUBBLERS IN FIELD

DEEP ROOT TREE BUBBLER SCHEMATIC

A4 000L-09

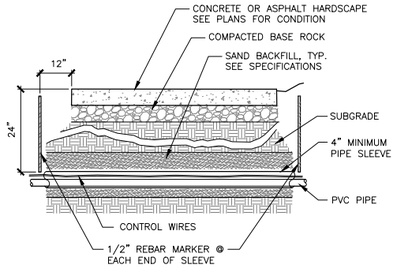
NOT TO SCALE



ISOLATION BALL VALVE

B1 000L-09

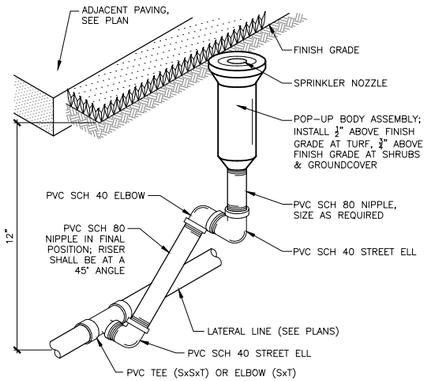
NOT TO SCALE



PIPE SLEEVING

B2 000L-09

NOT TO SCALE

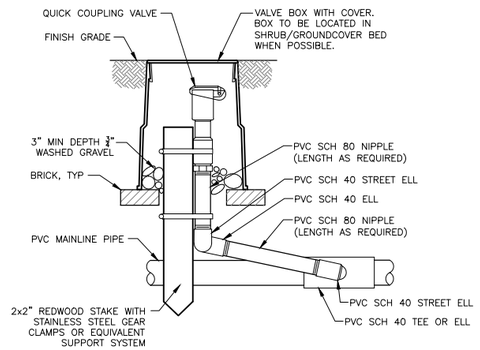


NOTES:
1. USE TEFLON TAPE ON ALL THREADED FITTINGS – 1½" WRAPS MAX
2. IRRIGATION HEADS TO BE 6" FROM PAVING FOR TURF AREAS

POP-UP ROTOR HEAD ASSEMBLY

B3 000L-09

NOT TO SCALE



NOTE:
FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE

QUICK COUPLING VALVE

B4 000L-09

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IRRIGATION DETAILS

0 1" 2"

FILENAME	000L-09.dwg
SCALE	AS NOTED

SHEET 000L-09

GENERAL

G1 CODE REQUIREMENTS:
ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE IBC 2009 EDITION, ACI 318-08 AND CMACN DESIGN OF MASONRY STRUCTURES. THESE CODES WILL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE FOLLOWING NOTES ARE MORE RESTRICTIVE.

G2 DESIGN LOADS: IN ADDITION TO THE DEAD LOADS, THE FOLLOWING WERE USED FOR DESIGN:

ROOF DL	20 PSF
OPERATING FLOORS (FLOORS ON WHICH MACHINERY MAY BE DISASSEMBLED)	250 PSF MIN
SIDEWALKS	250 PSF
GRATING	
TYPE 1	150 PSF
OTHER AREAS	100 PSF
SNOW LOAD	45 PSF BASIC GROUND LOAD
WIND SPEED	85 MPH EXP. B, IW=1.15

EARTHQUAKE DESIGN IS BASED UPON THE FOLLOWING:
BUILDING: IBC SITE CLASS D
SEISMIC DESIGN CATEGORY D
OCCUPANCY CATEGORY III
S_s = 50.5%g
S_1 = 17.2%g
S_{ds} = 47.0%g
S_{d1} = 24.2%g
I = 1.25

G3 DIMENSIONS: VERIFY ALL DIMENSIONS AND ALL CONDITIONS AT JOB SITE INCLUDING BUILDING AND SITE CONDITIONS BEFORE COMMENCING WORK. COMMENCEMENT OF WORK INDICATES ACCEPTANCE OF FIELD CONDITIONS. STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED PRIOR TO CONSTRUCTION. DO NOT SCALE DRAWINGS. USE ONLY WRITTEN DIMENSIONS.

G4 PROVISIONS FOR EQUIPMENT: VERIFY AND COORDINATE ALL REQUIRED OPENINGS IN FLOORS, WALLS, AND ROOF WITH ALL DISCIPLINES. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DRAWINGS SHALL BE PROVIDED.

G5 ALTERNATIVE DESIGNS: THE STRUCTURAL SYSTEMS AND DETAILS ON THESE PLANS ARE THE PRIORITY DESIGN. VARIATIONS AND MODIFICATIONS TO WORK SHOWN ON THESE DRAWINGS SHALL NOT BE CARRIED OUT WITHOUT WRITTEN PERMISSION FROM THE PROJECT REPRESENTATIVE.

G6 FLOOR AND ROOF DRAINS: SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATION AND SIZES OF FLOOR AND ROOF DRAINS, SLOPE DRAINAGE SURFACES UNIFORMLY TO DRAIN. SLOPE SHALL BE AS SHOWN ON DRAWINGS. MINIMUM SLOPE 1/8-INCH PER FOOT FLOOR, 1/4-INCH PER FOOT ROOF.

G7 SEE SPECIFICATIONS FOR GEOTECHNICAL INFORMATION PERTAINING TO SITE CONDITIONS.

G8 BACKFILL: NO EARTH SHALL BE BACKFILLED AGAINST THE CONCRETE STRUCTURE UNTIL THE COMPLETED CONCRETE STRUCTURE HAS REACHED ITS DESIGN STRENGTH.

G9 CONTRACTOR IS REQUIRED TO PROVIDE AND ENFORCE THE USE OF ALL SAFETY DEVICES IN ACCORDANCE WITH CURRENT OSHA & WISHA REGULATIONS.

G10 SEE CIVIL DRAWINGS FOR BUILDING LOCATION AND ORIENTATION ON THE SITE.

G11 SPECIAL INSPECTIONS:
SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH IBC SECTION 109 AND CHAPTER 17 ON THE FOLLOWING PORTIONS OF WORK:

- STRUCTURAL CONCRETE PLACEMENT
- REINFORCING STEEL PLACEMENT
- STRUCTURAL WELDING AND FIELD WELDING
- ANCHORS, EMBEDS, AND BOLTS IN CONCRETE
- HIGH STRENGTH BOLTS - TIGHTENING WHERE SPECIFIED AS SLIP CRITICAL
- SPECIAL GRADING, EXCAVATION, FILL AND SHORING
- MASONRY CONSTRUCTION (LEVEL 2)
- HELICAL PIERS

CONCRETE

C1 CODE: THE IBC 2009, ACI 318-08, ACI 350-06. CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS UNLESS OTHERWISE APPROVED.

C2 CONCRETE AND GROUT STRENGTH:

USE:	STRENGTH
NORMAL WEIGHT CONCRETE	4000 PSI
NON-SHRINK GROUT	5000 PSI
NORMAL WEIGHT LEAN CONCRETE	3000 PSI

C3 MINIMUM REINFORCEMENT:
WALL REINFORCING: (UNLESS NOTED OTHERWISE)

THICKNESS	HORIZONTAL	VERTICAL
8" WALL & UNDER	#4 @ 12"	#4 @ 12"
10" WALL	#5 @ 12" EF	#5 @ 12" EF
12" WALL	#5 @ 12" EF	#5 @12" EF

C4 REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A-615, GRADE 60, FOR DEFORMED BARS AND ASTM A-185 (FY - 65,000 PSI) FOR SMOOTH WELDED WIRE FABRIC (WWF), UNLESS OTHERWISE NOTED.

C5 REINFORCING STEEL SHALL HAVE PROTECTION AS FOLLOWS:

USE	COVER
SLAB BARS	1-1/2"
WALL BARS: INTERIOR FACES	1-1/2"
EXPOSED TO WEATHER OR EARTH	1-1/2" (#5 OR SMALLER) 2" (#6 OR LARGER)
FOOTING AND SLAB BARS CAST ON GROUND	3"
CONCRETE IN CONTACT WITH LIQUID	2"
WHEN WATER STOP ADJACENT TO OUTSIDE FACE OF REINFORCING	3"

C6 EXTRA ACCESSORY BARS: IN ADDITION TO NORMAL ACCESSORIES USED TO HOLD REINFORCING STEEL FIRMLY IN POSITION, EXTRA ACCESSORY BARS SHALL BE USED AS FOLLOWS:
IN SLABS #5 RAISER BARS AT 36" OC MAX
IN WALLS PROVIDE #3 U OR Z SHAPE SPACERS AT 6'-0" OC EW.

C7 BAR LAP SPLICES: DOWELS SHALL BE SAME SPACING AS BARS WITH WHICH THEY ARE LAPPED. THE DOWEL EMBODIMENT SHALL PROVIDED FULL TENSION EMBEDMENT. VERTICAL REINFORCING BAR SPLICES IN COLUMNS SHALL HAVE AT LEAST 30 BAR DIAMETER LAP, UNO OR SHOWN ON DWG. ALL OTHER BAR SPLICES SHALL BE LAPPED IN ACCORDANCE TO THE REINFORCING DEVELOPMENT TABLES ON SHEET S2.

C8 USE SPLICE LENGTH CLASS B UNLESS NOTED OTHERWISE. THE SPLICES SHALL BE STAGGERED AT LEAST THE LENGTH OF THE LAP SPLICES FROM FACE TO FACE. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF FRESH CONCRETE CAST BELOW THE REINFORCEMENT.

C9 RESTRICTED BAR ANCHORAGE: IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE UNITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

C10 CHAMFERS: EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. RE-ENTRANT CORNERS SHALL NOT HAVE FILLETS UNLESS OTHERWISE SHOWN.

C11 ANCHOR BOLTS: INSTALLATION AND CAPACITY OF ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH IBC TABLE 1912.2. ALL BOLTS SHALL BE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED. ADDITIONAL EMBEDMENT LENGTH REQUIRED FOR EQUIPMENT ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT SUPPLIER.

C12 ALL RE-ENTRANT CORNERS SHALL BE REINFORCED WITH 4#4@6 INSTALLED AT A 45° ANGLE TO THE CORNER WITH 48" LONG CENTERED ANCHOR.

STEEL

S1 STEEL SPECIFICATIONS: DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

STRUCTURAL STEEL - AISC MANUAL OF STEEL CONSTRUCTION ALLOWABLE STRESS DESIGN NINTH EDITION.

STRUCTURAL STEEL - AISC MANUAL OF STEEL CONSTRUCTION LOAD RESISTANCE FACTOR DESIGN SECOND EDITION.

WELDING - AWS D1.1
AWS PRE QUALIFIED JOINT DETAILS USE 16" MIN. WELDS (UNLESS OTHERWISE NOTED)

WELDER CERTIFICATION - WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (W.A.B.O)

S2 FABRICATION AND ERECTION:
BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATION THAT INCLUDE BUT ARE NOT LIMITED TO: ERECTION ANGLES; LIFT HOLES; WELDING PROCEDURES;
GROOVE ANGLES; BACKING BARS, COPES; SURFACE ROUGHNESS VALUES; AND TAPERS OF UNEQUAL PARTS.

S3 STEEL MATERIALS:
STRUCTURAL STEEL.....ASTM A 992 GRADE 50
CONNECTION MATERIAL, EMBEDDED ITEMS, CHANNELS, ANGLES, BASE PLATES, AND MISC. STEEL .....ASTM A 36
STEEL TUBE.....ASTM A 500 GRADE B
STEEL PIPE.....ASTM A 500 GRADE B
STRUCTURAL BOLTS.....ASTM A 325 N
ANCHOR BOLTS.....ASTM A 193
THREADED RODS.....ASTM A 36
WELDING ELECTRODES.....E70XX
SHEET STEEL.....ASTM A611
GALVANIZED SHEET STEEL.....ASTM 653

S4 ENCASED STEEL: STEEL COMPLETELY ENCASED IN CONCRETE SHALL NOT BE GALVANIZED OR PAINTED AND SHALL HAVE A CLEAN SURFACE FOR BONDING TO CONCRETE.

S5 ALL PAINT AND COATINGS SHALL BE IN ACCORDANCE WITH SPEC SECTION 09900.

FIBERGLASS

F1 ALL GRATING SHALL BE FIBERGLASS-(FRP) EXCEPT WHERE OTHERWISE NOTED.

F2 ALL FRP GRATING SHALL BE 2" DEPTH W/ 2X2 MESH EXCEPT WHERE OTHERWISE NOTED

F3 GRATING SUPPORTS IN THE SCREENING AREA SHALL BE FIBERGLASS.

F4 ALL FRP MEMBERS & GRATING SHALL HAVE A UV PROTECTIVE COATING

STAINLESS STEEL

ST1 MATERIALS: STAINLESS BARS AND SHAPES - ASTM A 484, FY = 30 KSI
STAINLESS STEEL PLATE SHEET AND STRIP - ASTM A 666 TYPE 316, FY = 30 KSI

ST2 FASTENERS: STAINLESS STEEL
BOLTS - ASTM A193, TYPE 316
STAINLESS STEEL NUTS - ASTM A194, TYPE 316

ST3 WELDING MATERIALS AND PROCEDURES FOR WELDING STAINLESS STEEL SHALL BE IN ACCORDANCE WITH AWS D1.6.

MASONRY

M1 APPLICABLE CODE

MASONRY INSTALLATION AND REINFORCING SHALL CONFORM TO ALL THE REQUIREMENTS OF ACI530-02/ASCE 5-02/TMS 402-02 AND ACI 530.1-02/ASCE 6-02/TMS 602/02.

M2 MINIMUM COMPRESSIVE STRENGTH OF MASONRY

f'm.....1,500 PSI MIN

M3 MINIMUM REINFORCEMENT (UNLESS NOTED OTHERWISE)

VERTICAL #5@24"
HORIZONTAL #5@24"

EXTRA REINFORCING IS REQUIRED AT OPENINGS, SEE TYP DETAILS.

M4 REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60, DEFORMED BARS.

M5 MINIMUM COVER

ALL REINFORCING STEEL SHALL HAVE MINIMUM OF 2" COVER INCLUDING THE MASONRY UNIT.

M6 LAP SPLICES

LAP SPLICES SHALL BE 48 BAR DIAMETERS OR 24" MINIMUM WHICHEVER IS GREATER.

M7 RESTRICTED BAR ANCHORAGE

IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOK.

M8 ANCHOR BOLTS

INSTALLATION AND CAPACITY OF ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH IBC 2009 TABLE 1912.2

ADHESIVE ANCHORS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARD DETAILS.

M9 SOLID GROUT

SOLID GROUT ALL CELLS UNO.

DEFERRED SUBMITTALS

1. METAL STAIRS, HANDRAIL AND LADDERS.
2. ALUMINUM HANDRAIL.
3. GRATING AND GRATING SUPPORT STRUCTURES.
4. ACCESS HATCHES.

SYMBOLS

OPENING

HATCH SHOWING HINGES AT LEFT

DOUBLE HATCH SHOWING HINGES AT RIGHT AND LEFT

TYPICAL DETAILS: THE DETAILS SHOWN ARE TYPICAL AND SHALL BE USED FOR LIKE OR SIMILAR CONDITIONS NOT SHOWN.

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PROJECT MANAGER	A. MEILLEUR
DESIGNED	K. KORNHER
DRAWN	J. CONNER
CHECKED	M. HIJAZI
PROJECT NUMBER	171097

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City of Wenatchee

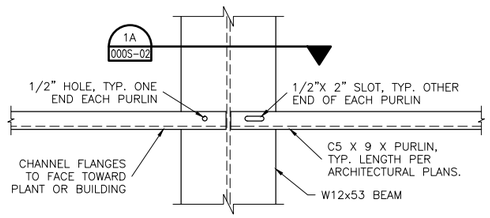
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL STRUCTURAL GENERAL NOTES

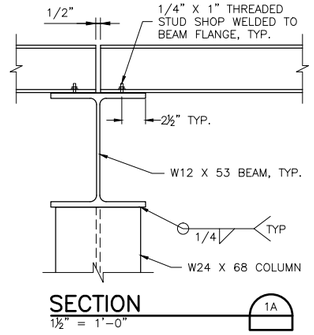
0 1" 2"

FILENAME	000S-01.dwg
SCALE	NOT TO SCALE

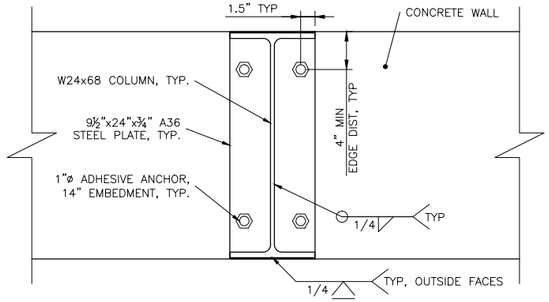
SHEET 000S-01



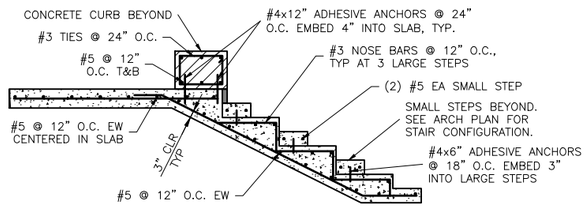
CANOPY SUPPORT PURLIN CONNECTION
1½" = 1'–0" — 1 — 000A-31, 220A-01



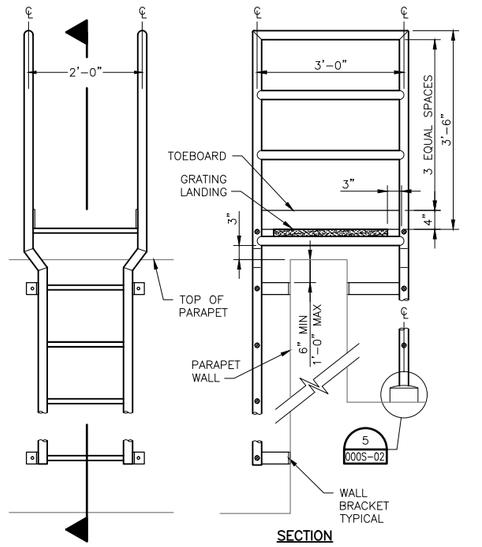
SECTION
1½" = 1'–0" — 1A



CANOPY SUPPORT BASE PLATE DETAIL
1½" = 1'–0" — 2 — 000A-31, 220A-01

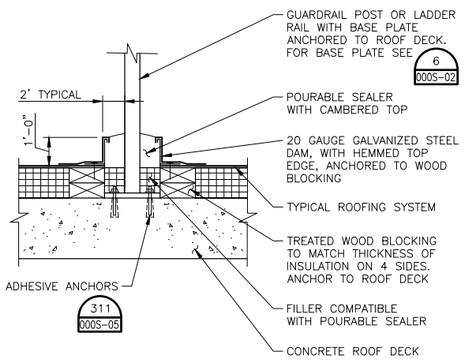


STAIR REINFORCING
⅜" = 1'–0" — 3 — 000A-04

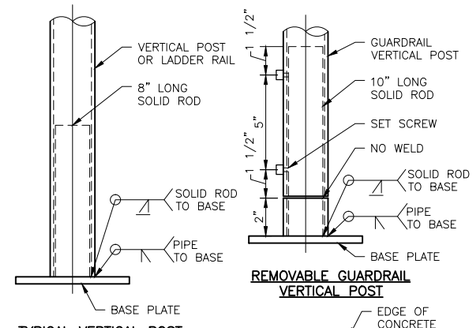


SECTION

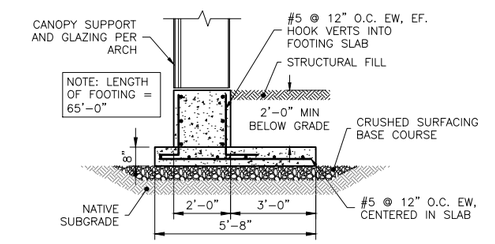
TYPICAL LADDER OVER PARAPET WALL
NTS — 4 — 310M-01



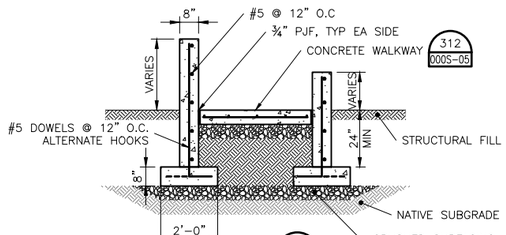
ROOF MOUNTED VERTICAL ALUMINUM POST ANCHORING DETAIL
3/4"=1'–0" — 5



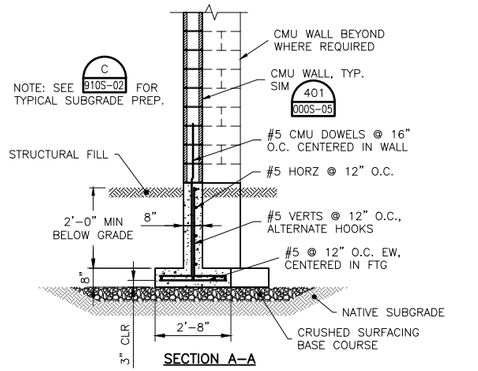
ALUMINUM VERTICAL POST BASE
NTS — 6



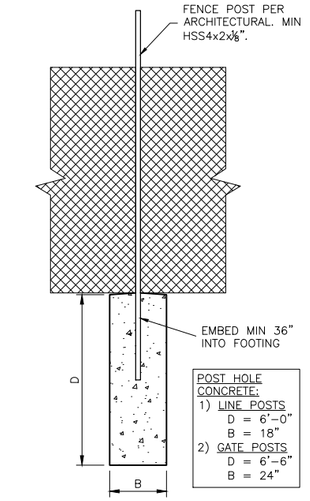
ADMIN CANOPY SUPPORT
⅜" = 1'–0" — 8 — 220A-01



TYPICAL RAMP SECTION
⅜" = 1'–0" — 9 — 000A-04, 000A-05



CMU FENCE POST SUPPORT
⅜" = 1'–0" — 7 — 000A-03



FENCE POST DETAIL
10 — 000A-03

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City of Wenatchee

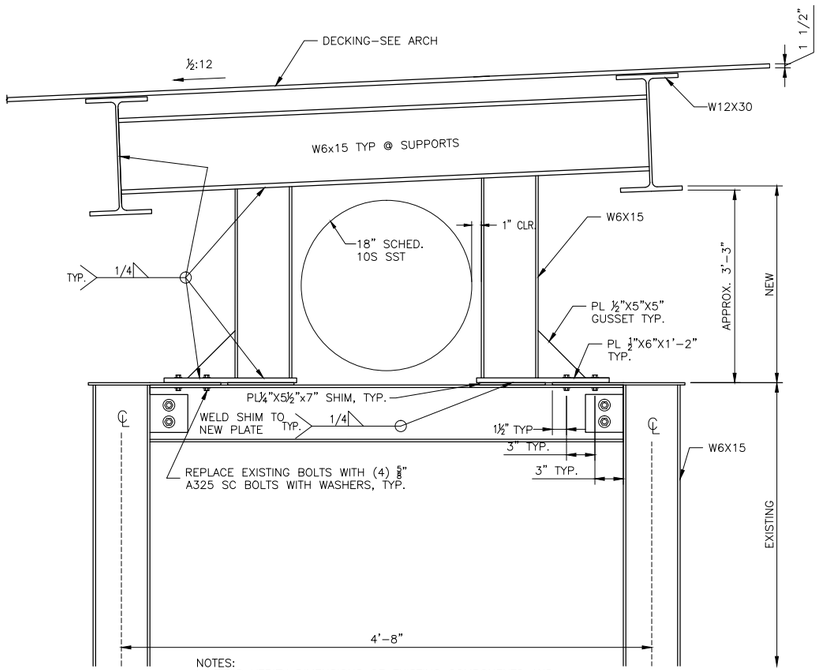
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL STRUCTURAL SITE DETAILS I

0 1" 2"

FILENAME	000S-02.dwg
SCALE	AS NOTED

SHEET 000S-02

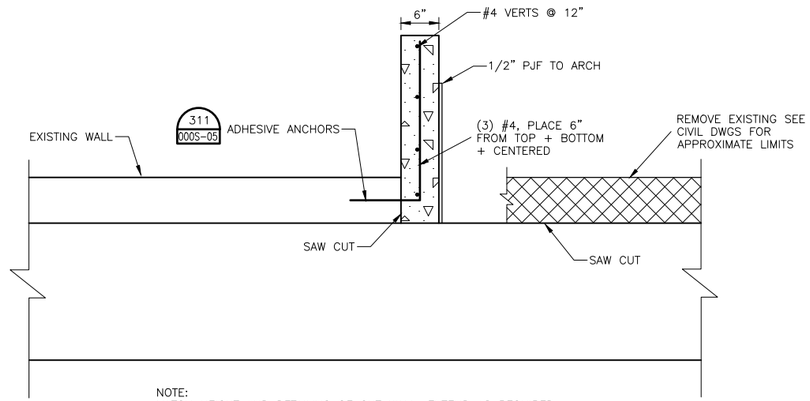


NOTES:
1. FIELD VERIFY DIMENSIONS OF EXISTING COMPONENTS AND CLEARANCE AROUND PIPING PRIOR TO FABRICATION – FIELD CUTTING WILL NOT BE ALLOWED.
2. HOT–DIP GALVANIZE AFTER FABRICATION.
3. IF FIELD CUTTING OR DRILLING IS REQUIRED, REGALVANIZE PIECE.
4. NEW COMPONENTS ARE WELDED TOGETHER. THEIR CONNECTION TO EXISTING IS BOLTED.

AERATION BASIN ROOF SUPPORT

1½" = 1'–0"

11 / 610A–21



NOTE:
MATCH HEIGHT AND DETAILING OF CUT WALL. EXTEND AS REQUIRED TO WORK WITH ARCHITECTURAL FEATURES– 4" MIN VERTICAL OVERLAP

WALL RETURN

NOT TO SCALE

12 / 000A–04 / 000A–05

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City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL STRUCTURAL SITE DETAILS II

0 1" 2"

FILENAME	000S–03.dwg
SCALE	AS NOTED

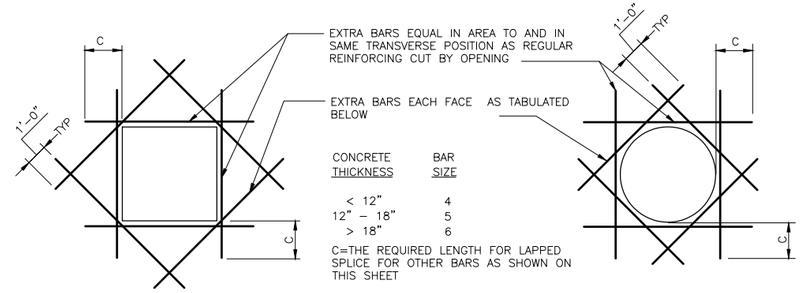
SHEET **000S-03**

fc >= 4000 psi fy = 60,000 psi				
BAR	MIN SPLICE LAP LENGTH		MIN EMBEDMENT LENGTH (MEL)	
	TOP BARS (INCHES)	OTHER* (INCHES)	TENSION (INCHES)	COMPRESSION (INCHES)
#3	24	18	14	7
#4	32	25	19	9
#5	40	31	24	12
#6	48	37	28	14
#7	70	54	42	17
#8	80	62	47	19
#9	90	70	54	21
#10	102	78	60	24
#11	113	87	67	27

NOTES:

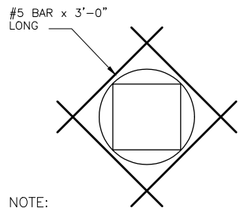
1. THESE TABLES PERTAIN TO THE ACI 318
2. LAP LENGTHS SHOWN ARE FOR CLASS "B" TENSION SPLICES.
3. LAP LENGTHS AND EMBEDMENTS SHOWN ARE FOR BARS SPACED LATERALLY @ > FIVE TIMES THE BAR DIAMETER AND FOR MINIMUM COVER IN ACCORDANCE WITH ACI 318.
4. IF SPACING IS < 5 TIMES BAR DIAMETER, INCREASE LAP LENGTH AND EMBEDMENT SHOWN BY 25%.
5. TOP REINFORCING IS HORIZONTAL STEEL SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING.

REINFORCING LAP & EMBEDMENT TABLES 301



FOR RECTANGULAR OPENINGS LARGER THAN 21" DIAGONAL
NTS

FOR CIRCULAR OPENINGS LARGER THAN 21" DIAGONAL
NTS



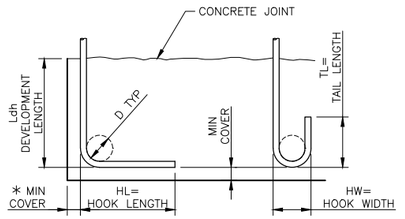
NOTE:
EXTRA BARS NOT REQUIRED AT SLEEVES OR WALL PIPES WHEN REINFORCEMENT IS NOT CUT AND OD IS 10" OR LESS

21" AND SMALLER DIAMETER OPENINGS
NTS

CONCRETE OPENING REINFORCING DETAILS 304
NTS

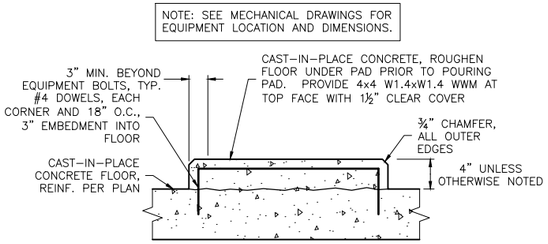
BAR SIZE GRADE 60	HL	HW	TL	D	f'c=4.0 OR 4.5 KSI
					Ldh *
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-2"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/4"	10 1/2"	9 1/2"	15"
#10	1'-10"	1'-1 1/4"	11 1/2"	10 3/4"	17"
#11	2'-0"	1'-2 3/4"	1'-1"	12"	19"

* COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED.

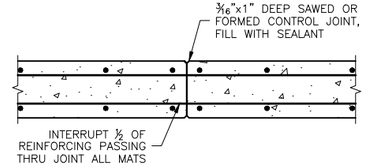


90 DEG STD HOOK 180 DEG STD HOOK

REINFORCING HOOK SCHEDULE 302
1" = 1'-0"

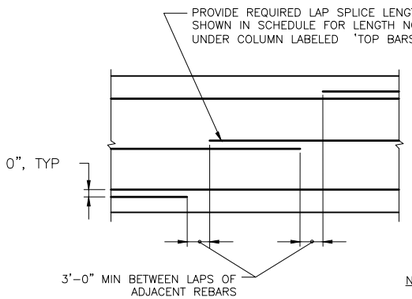


TYPICAL CONCRETE EQUIPMENT PAD 307
NTS

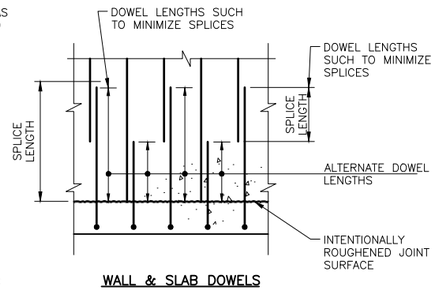


NOTES:
1. JOINT MAY BE FORMED WITH ½" CHAMFER STRIPS BACK-TO-BACK AT WALLS, CONTRACTOR'S OPTION.
2. DETAIL TO BE USED AT BOTH WALLS AND SLABS

CONTROL JOINT (CLJ) 308
3/4"=1'-0"



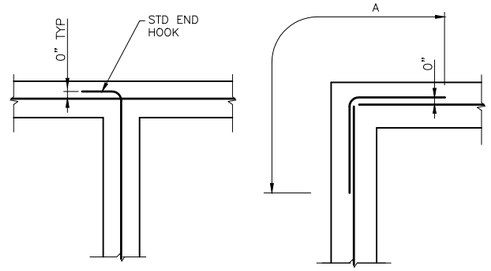
SLABS & WALLS



WALL & SLAB DOWELS

NOTE:
1. APPLIES TO SLABS, WALLS (BOTH HORIZONTAL AND VERTICAL)
2. LAP SPLICES SHALL NOT COINCIDE IN POSITION ANYMORE FREQUENTLY THAN EVERY THIRD BAR, CENTER AND EVERY OTHER BAR AT WALL & SLAB EDGES.
3. SPLICE LOCATION IS TO BE STAGGERED FROM FACE TO FACE OF WALL & SLAB

REINFORCING SPLICE STAGGER 303
NTS



A = SUFFICIENT LENGTH TO PERMIT BARS TO EXTEND THROUGH THE WALL TO THE OPPOSITE FACE AND TERMINATE WITH A LAP SPLICE.

TYPICAL CONCRETE CORNER REINFORCING 309
NTS

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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL STRUCTURAL STANDARD DETAILS I

0 1" 2"

FILENAME	000S-04.dwg
SCALE	AS NOTED

SHEET 000S-04

CMU ADHESIVE ANCHOR SCHEDULE

GROUTED CMU CELLS				
ANCHOR ø	EMBED LENGTH (IN)	EDGE DISTANCE (IN)	TENSION (LBS)	SHEAR (LBS)
⅜"	3½"	4	880	1135
½"	4½"	4	1055	1745
⅝"	5⅝"	4	1370	2120
¾"	6¾"	4	1580	2205
UNGROUTED CMU CELLS (LIMIT 1 ANCHOR PER CELL)				
¼"	N/A		255	340
5⁄16"	N/A		370	505
⅜"	N/A		525	790
½"	N/A		525	1230

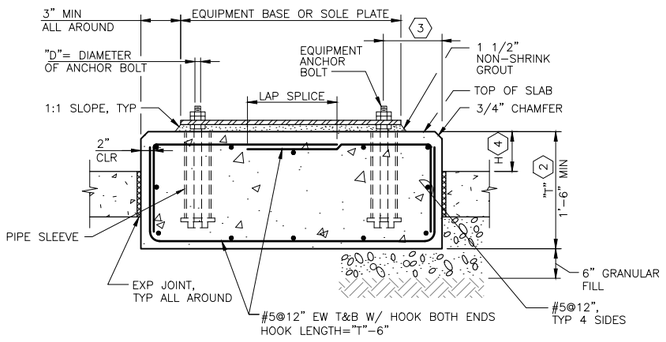
NOTES:
1. ALLOWABLE LOADS GIVEN FOR ANCHORS IN GROUTED CMU CELLS ARE BASED ON HILTI HIT–HY 150 MAX ANCHORING SYSTEM
2. ALLOWABLE LOADS GIVEN FOR ANCHORS IN UNGROUTED CMU CELLS ARE BASED ON HILTI HIT–HY 20 HYBRID ADHESIVE ANCHORING SYSTEM

CONCRETE ADHESIVE ANCHOR SCHEDULE

REINFORCING BARS						
BAR SIZE	EMBED LENGTH	MIN CONC THICKNESS	MIN EDGE DISTANCE	MIN ANCHOR SPACING	ALLOWABLE TENSION (LBS)	ALLOWABLE SHEAR (LBS)
#5	6"	7½"	7½"	10"	5,535	7,195
#6	7"	10½"	10½"	14"	8,783	11,418
#7	8"	11¼"	11¼"	15"	9,968	12,959
#8	9"	12"	12"	16"	11,201	14,562
ANCHOR BOLTS/THREADED RODS						
⅜"	5"	5¼"	5¼"	7"	3,105	2,519
½"	6"	6½"	6½"	8½"	4,371	5,440
⅝"	7"	7½"	7½"	10"	5,535	7,195
¾"	8"	10	10	13¼"	8,274	10,757

NOTES:
1. ALLOWABLE LOADS GIVEN ARE BASED ON HILTI HIT–RE 500–SD EPOXY ANCHORS.
2. SEE SPECIFICATIONS (5500) FOR ALLOWABLE ANCHORS.
3. EMBEDMENT LENGTHS SHOWN ARE MINIMUM. PROVIDE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

ADHESIVE ANCHOR 311
NTS



NOTES:

1) EQUIPMENT PAD DIMENSIONS SHALL BE AS DETERMINED BY EQUIPMENT MANUFACTURER'S APPROVED SHOP DRAWINGS.

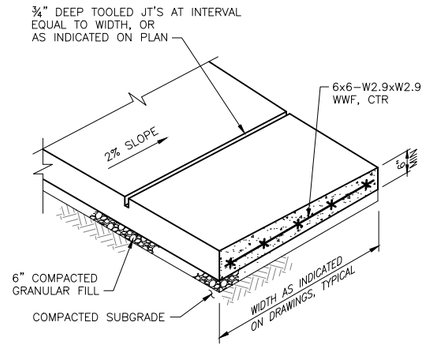
2) PAD THICKNESS "T" AS REQUIRED BY EQUIPMENT MANUFACTURER. PAD DIMENSIONS, ANCHOR BOLT SIZE AND LOCATION AND EQUIPMENT BASE OR SOLE PLATE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.

3) THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".

4) HEIGHT VARIES TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS, 6" MINIMUM.

5) PIPE SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF ½" IN ALL DIRECTIONS. MIN SLEEVE LENGTH SHALL BE 8x THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON–SHIRNK GROUT. SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER OF 1" GREATER THAN BOLT DIAMETER AND MAX INTERNAL DIAMETER OF 3" GREATER THAN BOLT DIAMETER.

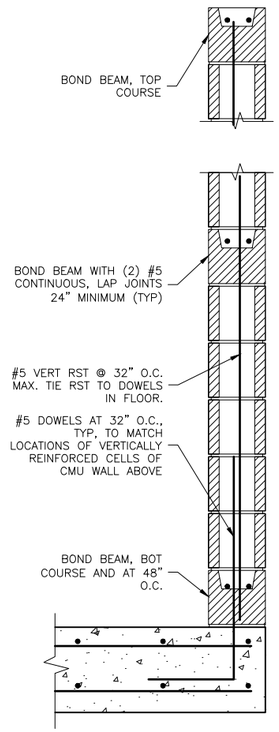
ISOLATED CONCRETE EQUIPMENT PAD DETAIL 310
NTS



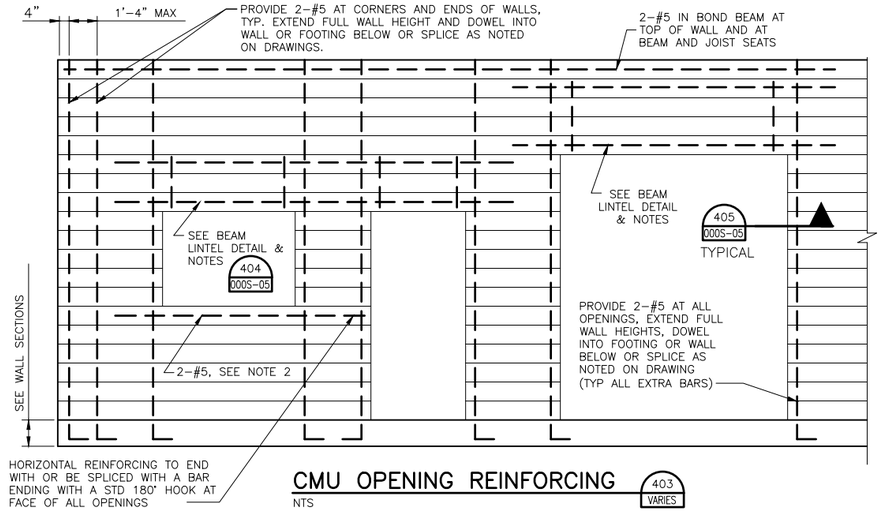
NOTES:

1. PROVIDE FULL DEPTH 3/8" PREMOLDED EXPANSION JOINT FILLER ALL AROUND AT ALL UTILITY POLES, METER BOXES, ETC.
2. PLACE FULL DEPTH THRU JOINTS W/1/2"x6" PREMOLDED EJF AT POINT OF TANGENCY AND AT MIN 30' INTERVALS.

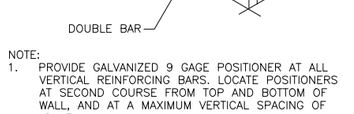
CONCRETE WALKWAY 312
NTS



EXTERIOR CMU WALL 401
NTS

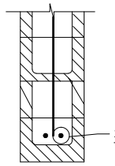


CMU OPENING REINFORCING 403
NTS VARIES



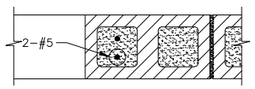
NOTE:
1. PROVIDE GALVANIZED 9 GAGE POSITIONER AT ALL VERTICAL REINFORCING BARS. LOCATE POSITIONERS AT SECOND COURSE FROM TOP AND BOTTOM OF WALL, AND AT A MAXIMUM VERTICAL SPACING OF 8'–0".
2. TIE HORIZONTAL BARS TO VERTICAL BARS WITH IN 1 VERTICAL BAR SPACING FROM THE CORNERS AND AT A MAXIMUM HORIZONTAL SPACING OF 8'–0"

VERTICAL & HORIZONTAL BAR POSITIONER DETAIL 402
NTS



NOTE:
1. FOR OPENINGS, LARGER THAN 36"SEE LARGE BEAM LINTEL.
2. LOW–WEB BOND BEAM ARE NOT ACCEPTABLE OVER OPENINGS OR WITHIN THE EXTENDED BAR ZONE ADJACENT TO OPENINGS.

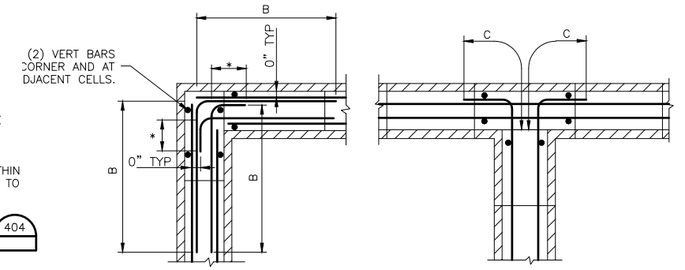
BEAM LINTEL DETAIL 404
NTS



NOTES:

1. APPLIES TO ALL OPENINGS,INCLUDING LOUVERS AND OPENINGS FOR GLASS BLOCK.
2. EXTENDED 48 BAR DIA PAST OPENING EACH SIDE WHERE APPLICABLE.
3. ALL HORIZONTAL REINFORCING AT EDGE OF OPENINGS AND WALL ENDS ARE TO END WITH STANDARD HOOKS. THE HOOKS MAY BE PLACED FACING UP OR DOWN AS REQUIRED SO LONG AS THEY ARE NOT TO BE EXPOSED AT WALL CAP.

CMU JAMB 405
NTS



DOUBLE BAR BOND BEAM

A = SUFFICIENT LENGTH TO PERMIT BARS TO EXTEND THROUGH THE WALL TO THE OPPOSITE FACE AND TERMINATE WITH A LAP SPLICE, AS SHOWN ON THIS SHEET.

B = PROVIDE TWICE THE LAP LENGTH NOTED BELOW

C = SUFFICIENT LENGTH TO PERMIT BARS TO EXTEND THROUGH THE WALL TO THE OPPOSITE FACE AND TERMINATE IN A STANDARD HOOK, AS SHOWN ON THIS SHEET.

* NOT LESS THAN STANDARD END HOOK

XX EXTRA BARS SAME SIZE AND AT SAME SPACING AS HORIZONTAL STEEL. ADD EXTRA BARS ONLY WHEN CALL FOR ON DRAWINGS.

CMU CORNER REINFORCING DETAIL 120S–02
NTS

RH2 ENGINEERS PLANNERS SCIENTISTS

UNDERGROUND SERVICE ALERT ONE–CALL NUMBER 1–800–424–5555 CALL TWO BUSINESS DAYS BEFORE YOU DIG

HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	K. KORNHER
DRAWN	J. CONNER
CHECKED	M. HIJAZI
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

City of Wenatchee

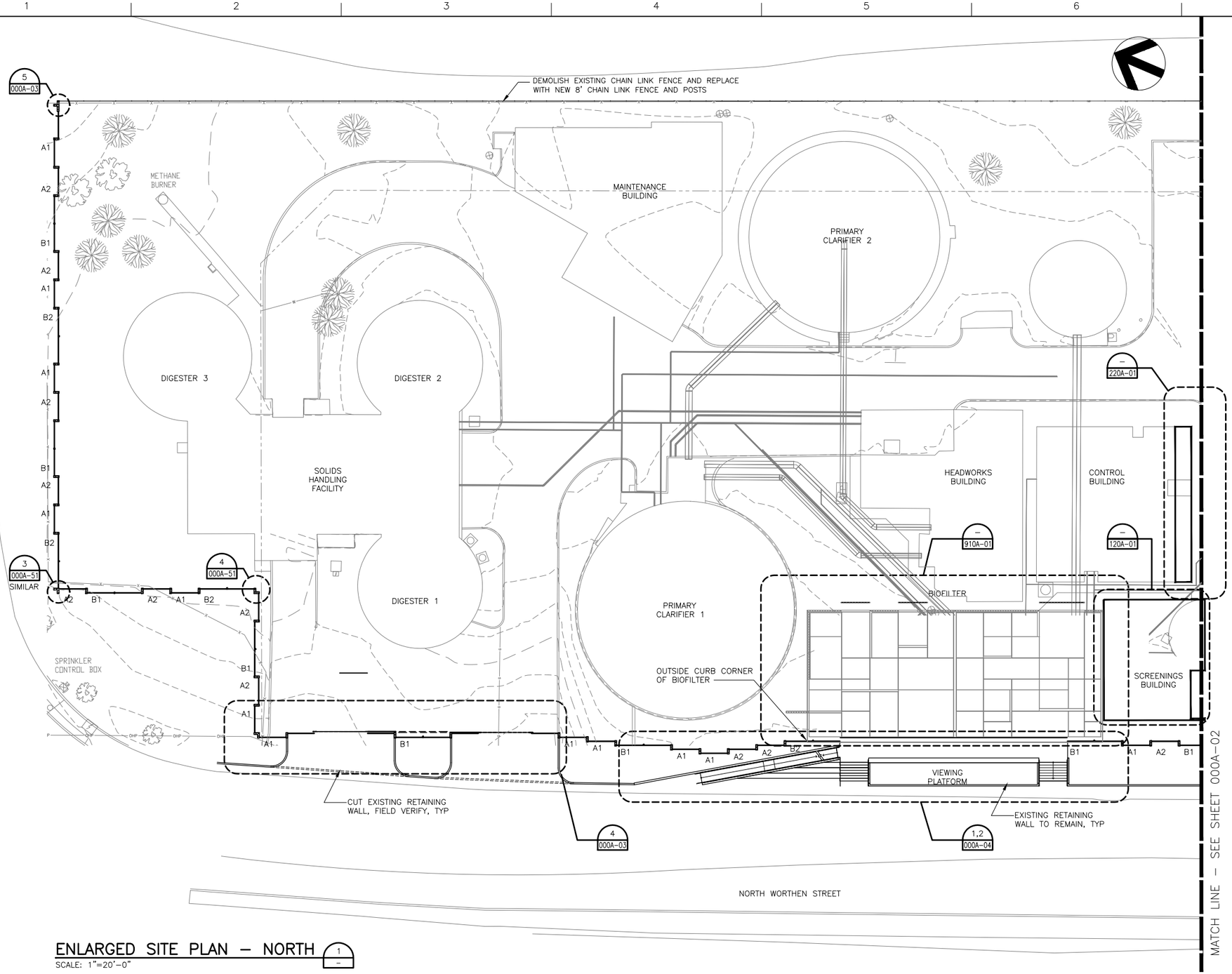
WASTE WATER TREATMENT PLANT IMPROVEMENTS

GENERAL STRUCTURAL STANDARD DETAILS II

0 1" 2"

FILENAME	000S–05.dwg
SCALE	AS NOTED

SHEET **000S-05**

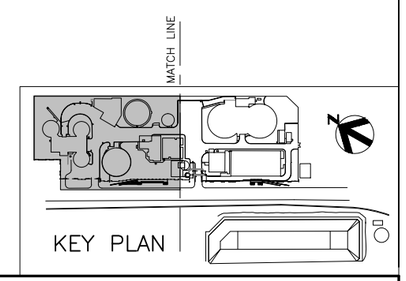


ENLARGED SITE PLAN – NORTH (1)

SCALE: 1"=20'-0"

GENERAL NOTES:

A. SEE 000A-61 FOR FENCE TYPES.
B. CONTRACTOR TO FIELD VERIFY NEW FENCE LOCATION PER OUTSIDE CURB CORNER OF BIOFILTER.
C. RE-ROOF @ EXISTING CONTROL BUILDING PER SPEC
D. REPLACE ALL EXISTING COPING PER SPEC @ SOLID HANDLING FACILITY, DIGESTER, MAINTENANCE BUILDING, HEADWORKS BUILDING, BLOWER BUILDING
E. REPAINT ALL EXISTING BUILDINGS W/ NEW COLOR PER SPEC



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DRAWN	J. ZHAO
CHECKED	
PROJECT NUMBER	171097

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City of Wenatchee

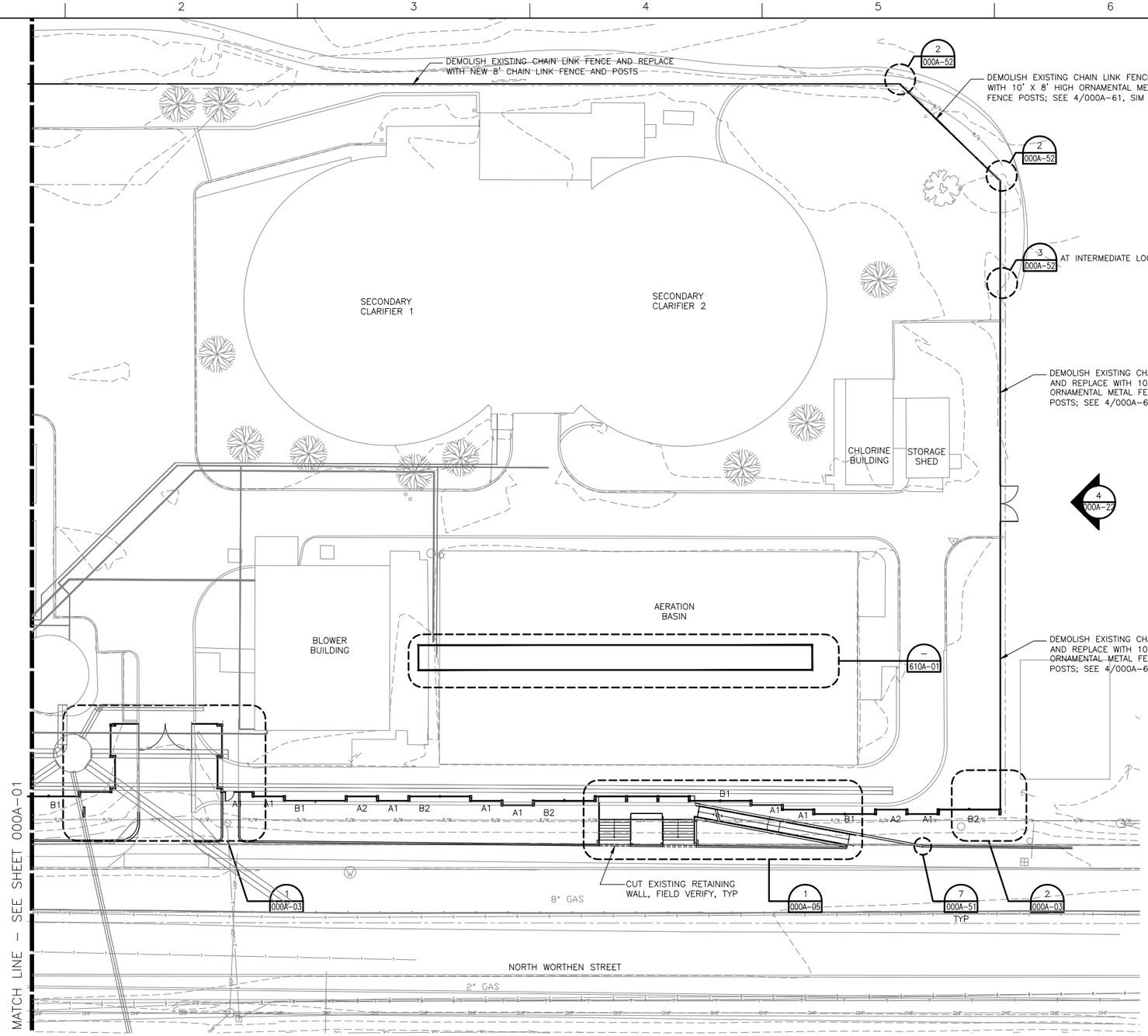
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE ARCHITECTURAL PLAN - NORTH

0 1" 2"

FILENAME	000A-01.dwg
SCALE	1"=20'-0"

SHEET 000A-01

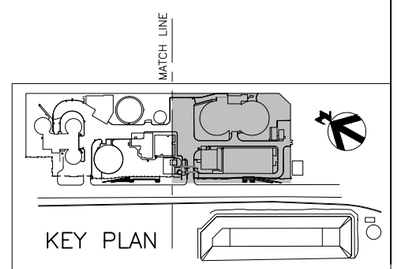


ENLARGED SITE PLAN – SOUTH (1)

SCALE: 1"=20'-0"

GENERAL NOTES:

A. SEE 000A–61 FOR FENCE TYPES.
B. CONTRACTOR TO FIELD VERIFY FINAL NEW FENCE LOCATION PER OUTSIDE CURB CORNER OF BIOFILTER.
C. RE–ROOF @ EXISTING CONTROL BUILDING PER SPEC
D. REPLACE ALL EXISTING COPING PER SPEC @ SOLID HANDLING FACILITY, DIGESTER, MAINTENANCE BUILDING, HEADWORKS BUILDING, BLOWER BUILDING
E. REPAINT ALL EXISTING BUILDINGS W/ NEW COLOR PER SPEC



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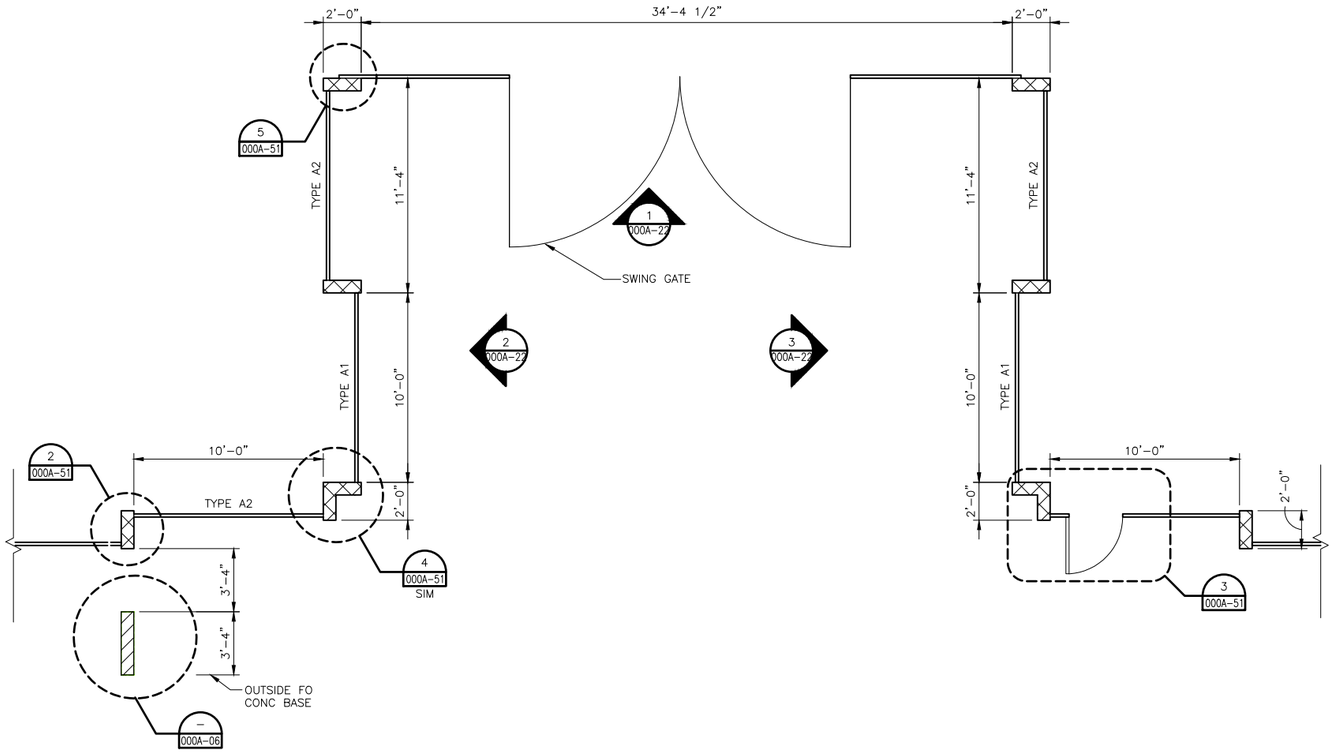
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE ARCHITECTURAL PLAN - SOUTH

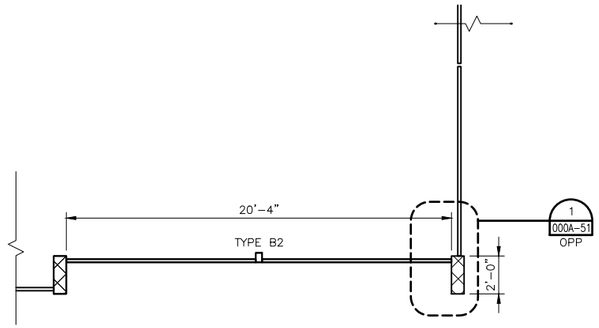
0 1" 2"

FILENAME	000A–02.dwg
SCALE	1"=20'–0"

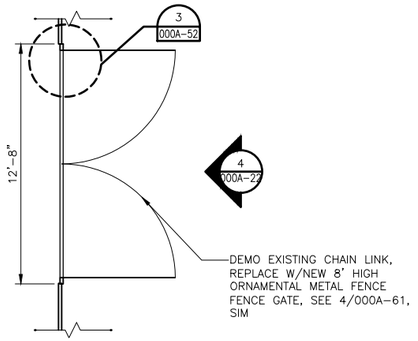
SHEET 000A-02



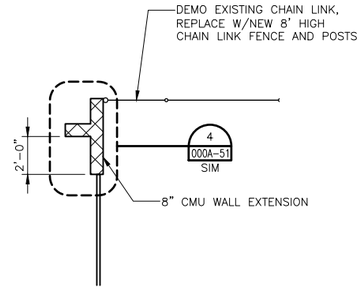
ENLARGED FENCE PLAN 1 000A-02
SCALE: 1/4"=1'-0"



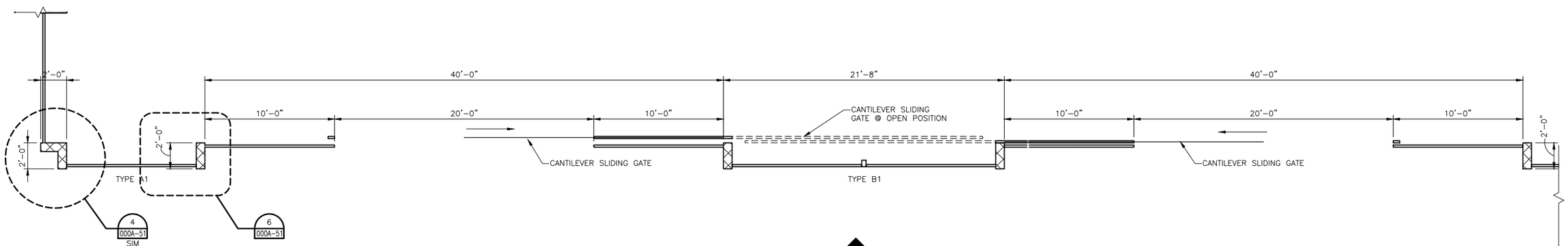
ENLARGED FENCE PLAN 2 000A-02
SCALE: 1/4"=1'-0"



ENLARGED FENCE PLAN 3 000A-02
SCALE: 1/4"=1'-0"



ENLARGED FENCE PLAN 5 000A-02
SCALE: 1/4"=1'-0"



ENLARGED FENCE PLAN 4 000A-01
SCALE: 1/4"=1'-0"

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DESIGNED	D. HOGAN
DRAWN	J. ZHAO
CHECKED	
PROJECT NUMBER	171097

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City of Wenatchee

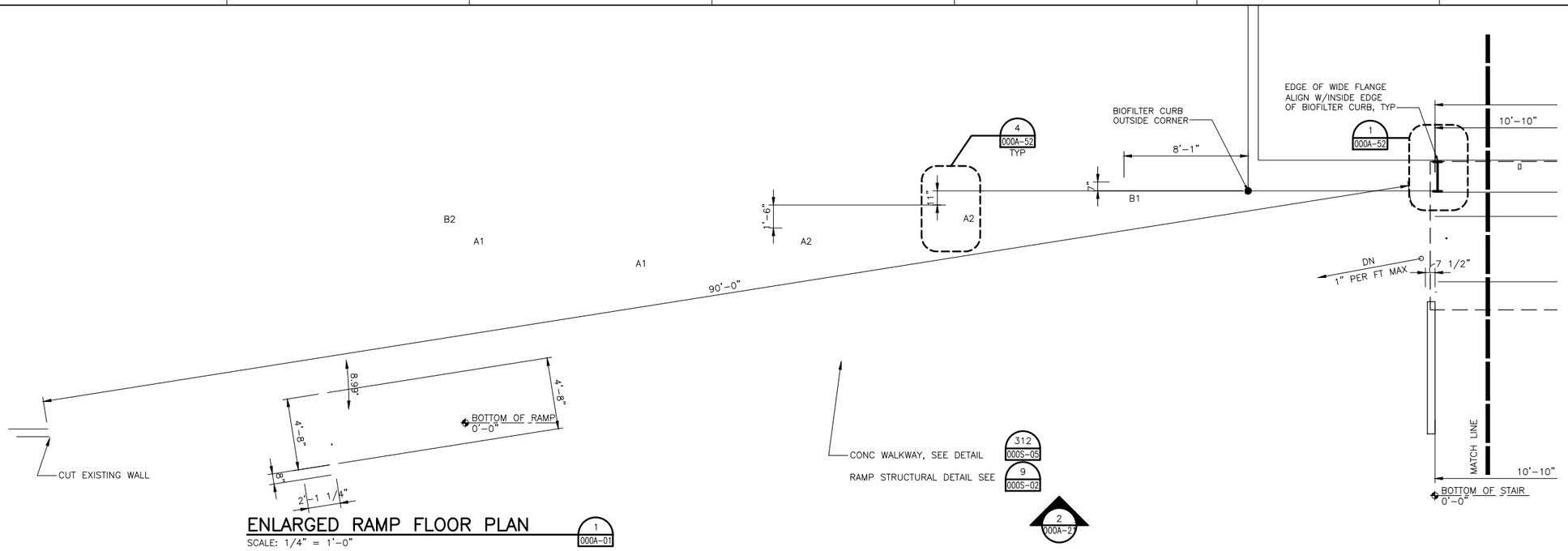
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
ENLARGED ARCHITECTURAL PLANS

0 1" 2"

FILENAME	000A-03.dwg
SCALE	1/4"=1'-0"

SHEET **000A-03**



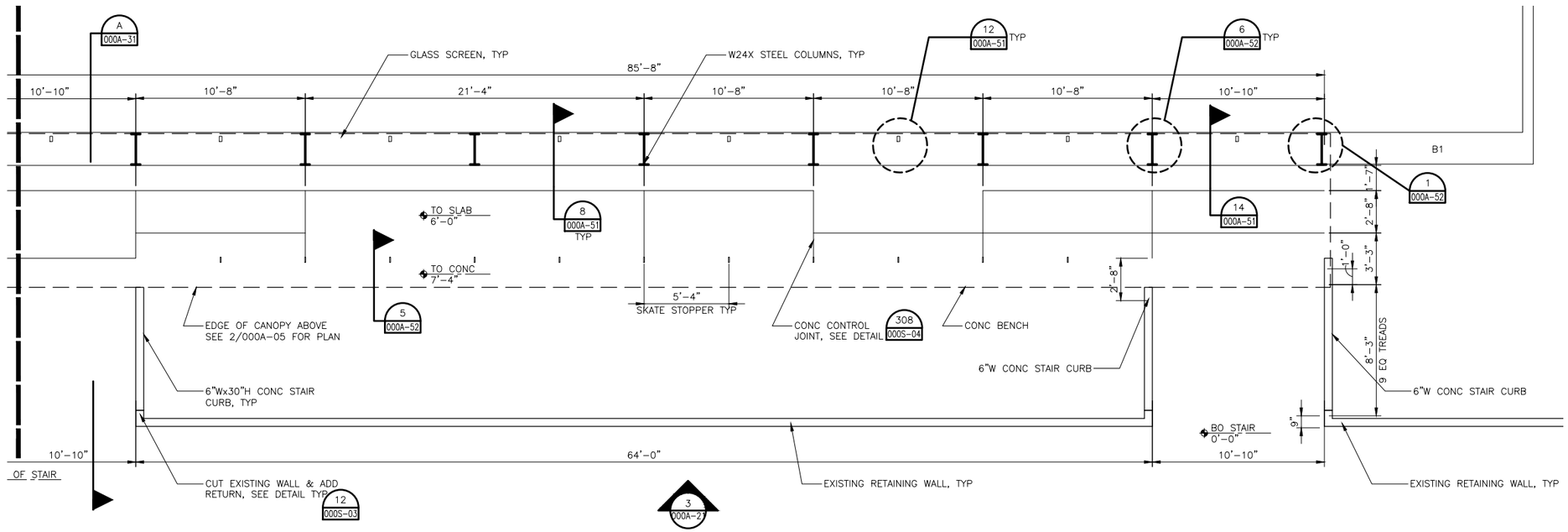
ENLARGED RAMP FLOOR PLAN

SCALE: 1/4" = 1'-0"

1
000A-01

GENERAL NOTES:

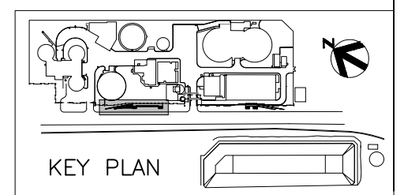
A. SEE 000A-61 FOR FENCE TYPES.
B. CONTRACTOR TO FIELD VERIFY NEW FENCE LOCATION PER OUTSIDE CURB CORNER OF BIOFILTER.
C. RE-ROOF @ EXISTING CONTROL BUILDING PER SPEC
D. REPLACE ALL EXISTING COPING PER SPEC @ SOLID HANDLING FACILITY, DIGESTER, MAINTENANCE BUILDING, HEADWORKS BUILDING, BLOWER BUILDING
E. REPAINT ALL EXISTING BUILDINGS W/ NEW COLOR PER SPEC



ENLARGED NORTH VIEW PLATFORM PLAN

SCALE: 1/4" = 1'-0"

2
000A-01



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City of Wenatchee

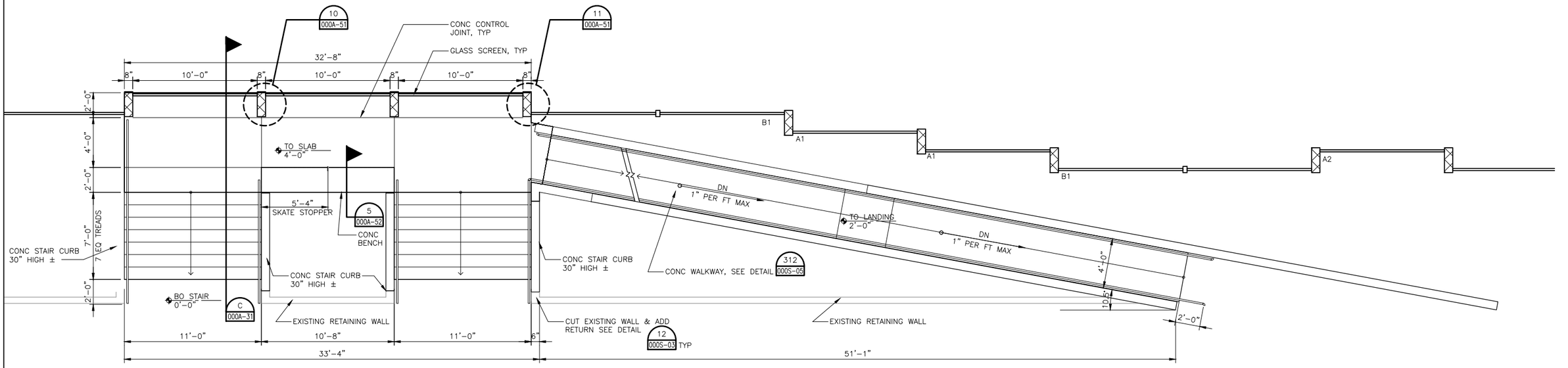
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
ENLARGED VIEW PLATFORM PLANS

0 1" 2"

FILENAME	000A-04.dwg
SCALE	1/4"=1'-0"

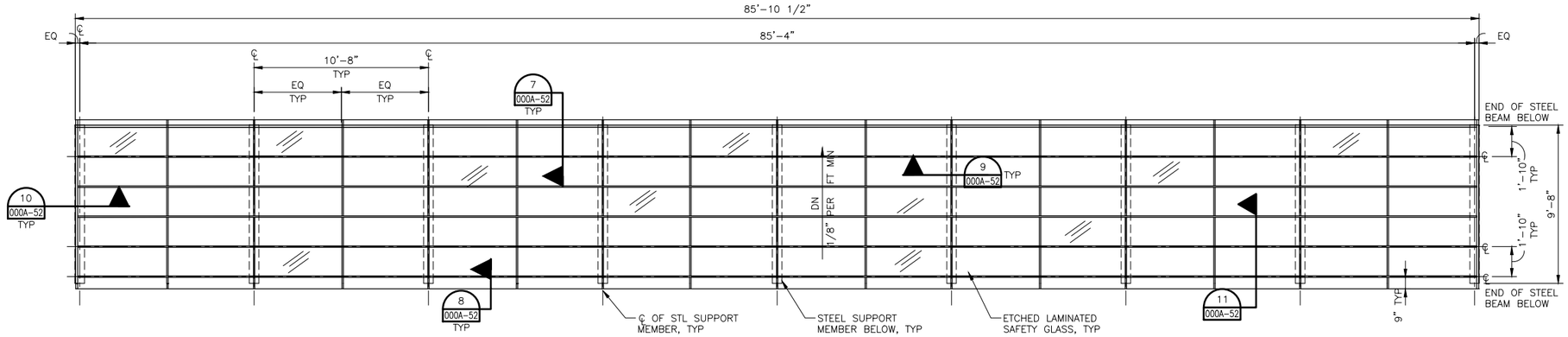
SHEET
000A-04



ENLARGED SOUTH VIEW PLATFORM PLAN

1 / 000A-02

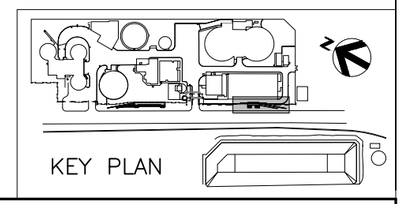
SCALE: 1/4" = 1'-0"



NORTH VIEW PLATFORM CANOPY PLAN

2 / 000A-04

SCALE: 1/4"=1'-0"



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City of Wenatchee

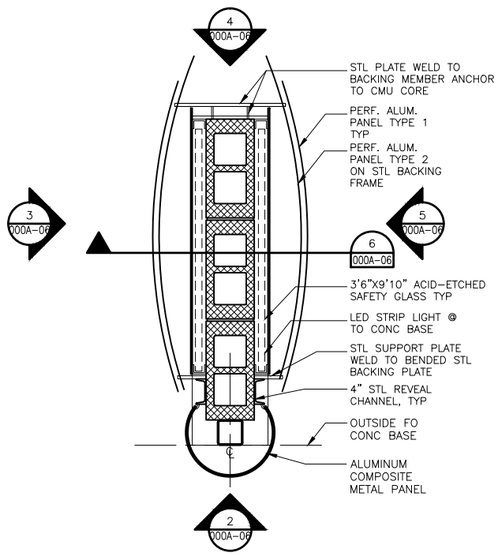
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
VIEW AREA RAMP PLAN & CANOPY PLAN

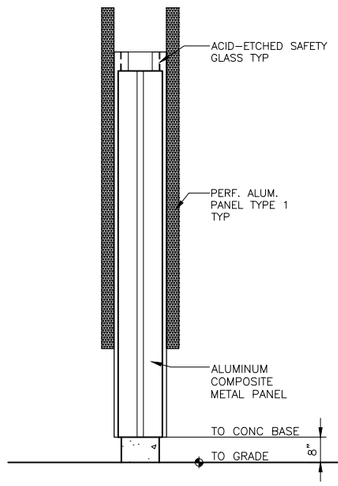
0 1" 2"

FILENAME	000A-05.dwg
SCALE	1/4"=1'-0"

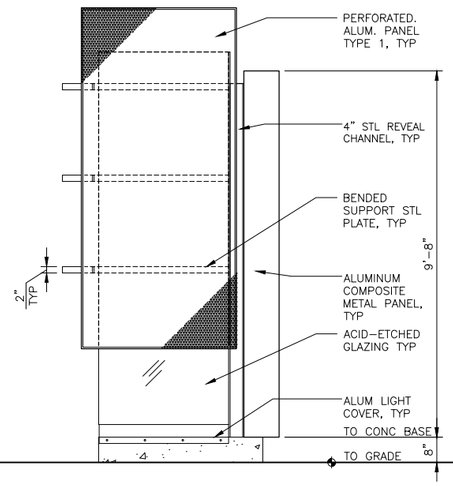
SHEET **000A-05**



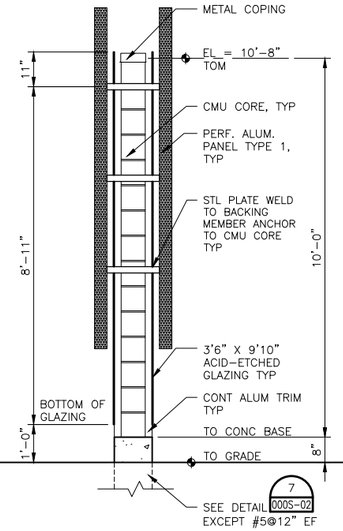
SIGNAGE PLAN
SCALE: 1" = 1'-0"
1 000A-03



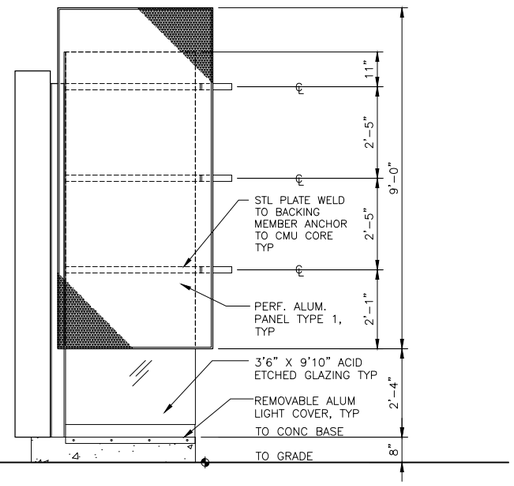
SOUTH ELEVATION
SCALE: 1/2" = 1'-0"
2 -



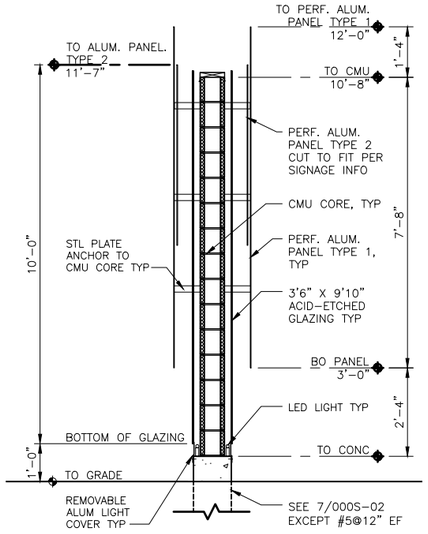
WEST ELEVATION
SCALE: 1/2" = 1'-0"
3 -



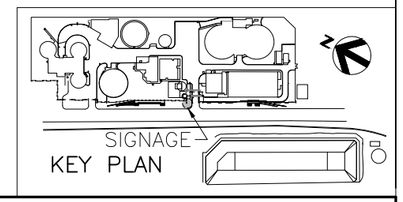
NORTH ELEVATION
SCALE: 1/2" = 1'-0"
4 -



EAST ELEVATION
SCALE: 1/2" = 1'-0"
5 -



CROSS SECTION
SCALE: 1/2" = 1'-0"
6 -



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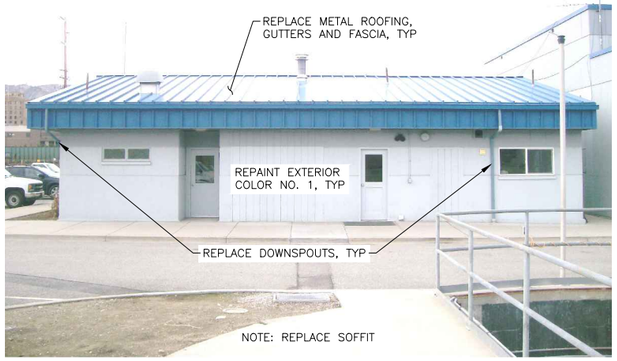
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
SIGNAGE PLAN & ELEVATIONS

0 1" 2"

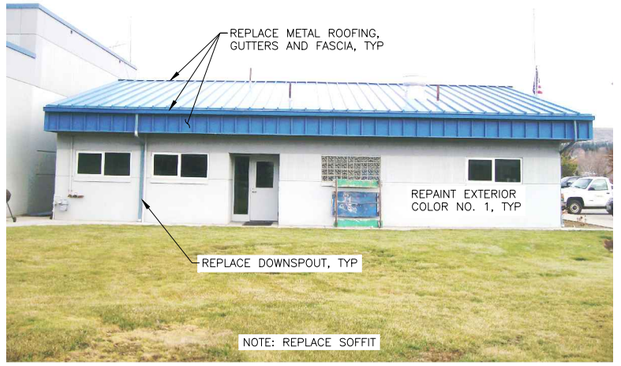
FILENAME	000A-06.dwg
SCALE	AS NOTED

SHEET
000A-06



CONTROL BUILDING – EAST
NOT TO SCALE

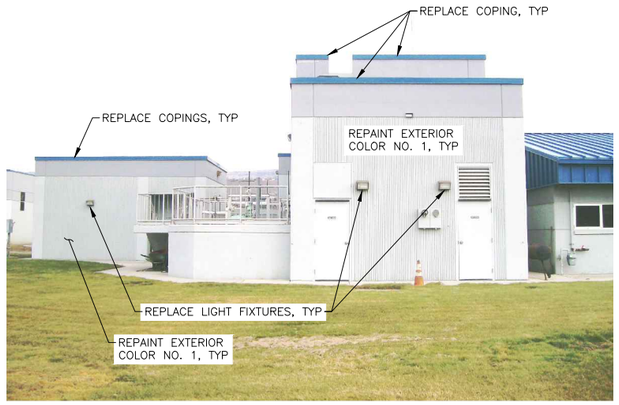
CONTROL BUILDING – SOUTH
NOT TO SCALE



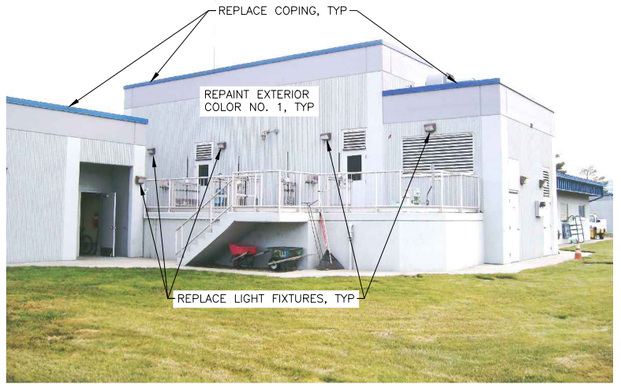
CONTROL BUILDING – WEST
NOT TO SCALE

GENERAL NOTES (SHEET 00A–07 THRU 00A–012):

1. ALL NEW AND REPLACED LIGHTING FIXTURE LOCATIONS TO BE FIELD LOCATED AND VERIFIED BEFORE ORDERING AND MOUNTING.
2. LIGHTING CONTRACTOR TO FURNISH AND INSTALL LIGHTS PER THE LIGHTING FIXTURES SCHEDULE AND ARCHITECTURAL THEME LIGHTING SCHEDULE ON SHEET 000E–14.
3. AS NOTED ON DETAILS, CONTRACTOR TO "REPAINT EXTERIOR COLOR NO. 1," IS DEFINED AS THE ENTIRE EXTERIOR OF THE BUILDING, INCLUDING HANDRAILS, LOUVERS, DOORS, PIPING, ETC. ARE TO BE PAINTED ALONG WITH THE CONCRETE WALLS IN ONE COLOR.



HEADWORKS BUILDING – WEST
NOT TO SCALE



HEADWORKS BUILDING – NORTHWEST
NOT TO SCALE

UNDERGROUND SERVICE ALERT
ONE–CALL NUMBER
1–800–424–5555
CALL TWO BUSINESS DAYS BEFORE YOU DIG

HDR
HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	APR 2014	RECORD DRAWINGS
0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	D. HOGAN
DRAWN	B. LILLY
CHECKED	
PROJECT NUMBER	171097

ELECTRONIC SEAL AND SIGNATURE HAS BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

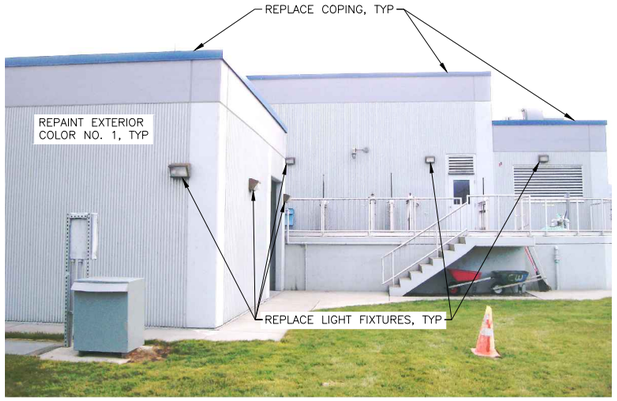
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

ARCHITECTURE
EXISTING BUILDING MODIFICATIONS 1

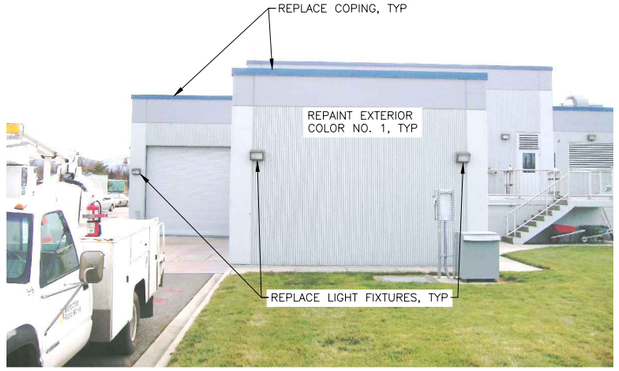
0 1" 2"

FILENAME	000A–07.dwg
SCALE	NOT TO SCALE

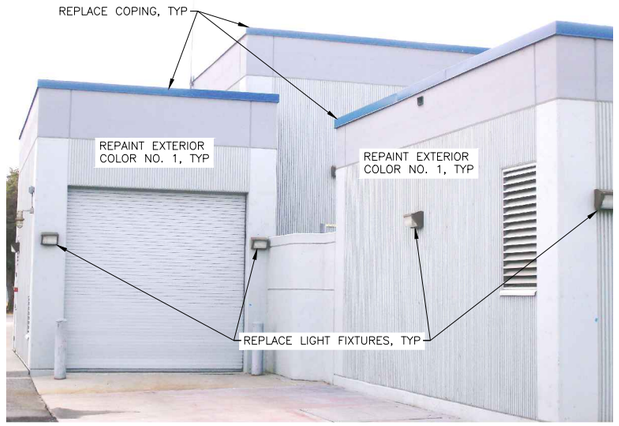
SHEET 000A-07



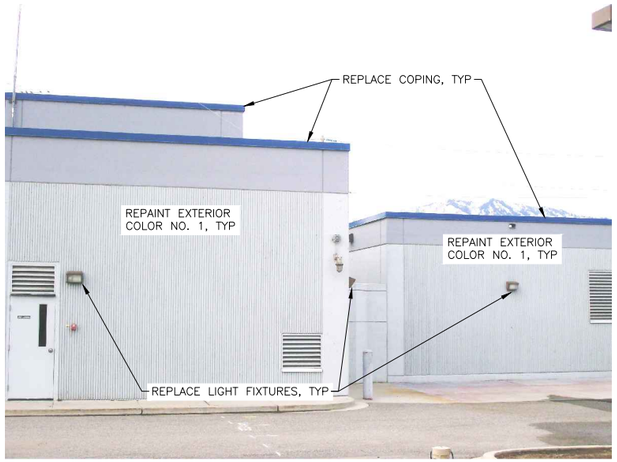
HEADWORKS BUILDING – NORTH
NOT TO SCALE



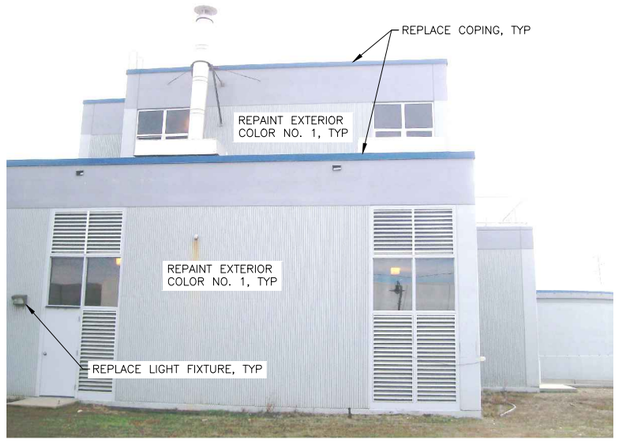
HEADWORKS BUILDING – NORTH
NOT TO SCALE



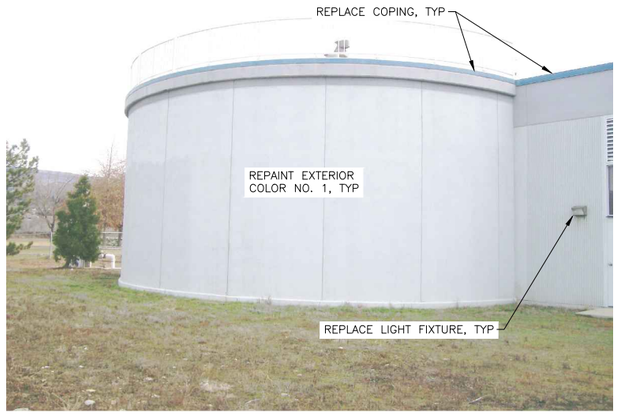
HEADWORKS BUILDING – NORTHEAST
NOT TO SCALE



HEADWORKS BUILDING – EAST
NOT TO SCALE



SOLIDS HANDLING BUILDING – NORTH
NOT TO SCALE



SOLIDS DIGESTER NO. 3 – NORTHWEST
NOT TO SCALE

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City of Wenatchee

WASTE WATER TREATMENT PLANT IMPROVEMENTS

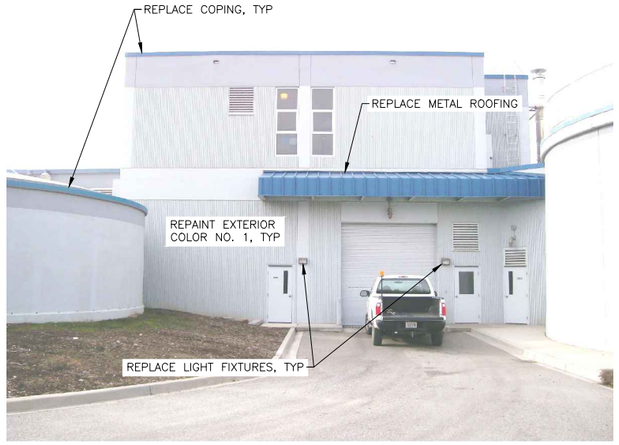
ARCHITECTURE
EXISTING BUILDING MODIFICATIONS 2

0 1" 2"

FILENAME	000A-08.dwg
SCALE	NOT TO SCALE

SHEET
000A-08

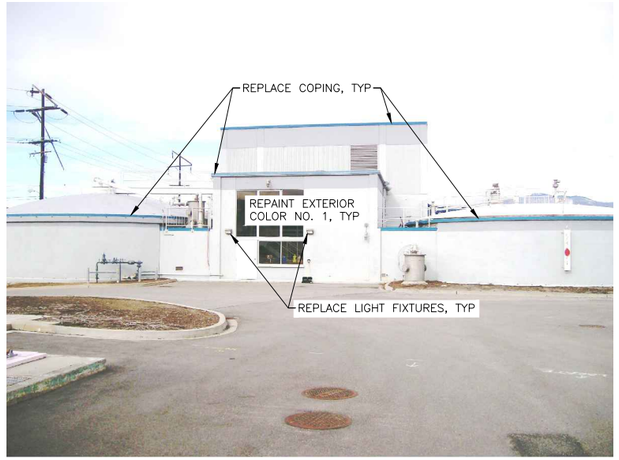
SOLIDS DIGESTER NO. 3 – SOUTHEAST
NOT TO SCALE



SOLIDS HANDLING BUILDING – EAST
NOT TO SCALE

SOLIDS DIGESTER NO. 2 – NORTHEAST
NOT TO SCALE

SOLIDS DIGESTER NO. 2 – SOUTH
NOT TO SCALE



SOLIDS HANDLING BUILDING – SOUTH
NOT TO SCALE

SOLIDS HANDLING BUILDING – SOUTH
NOT TO SCALE

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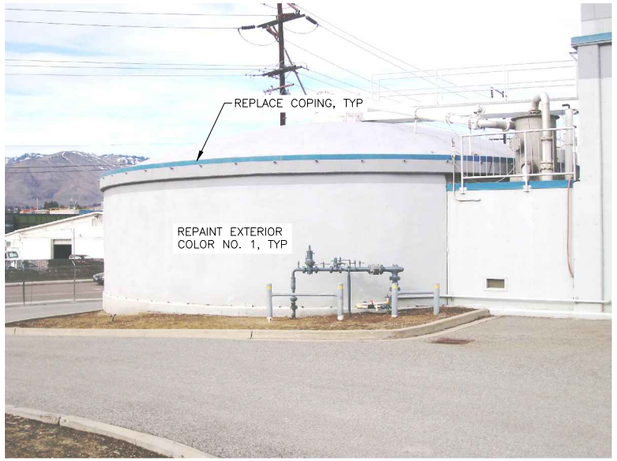
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

ARCHITECTURE
EXISTING BUILDING MODIFICATIONS 3

0 1" 2"

FILENAME	000A-09.dwg
SCALE	NOT TO SCALE

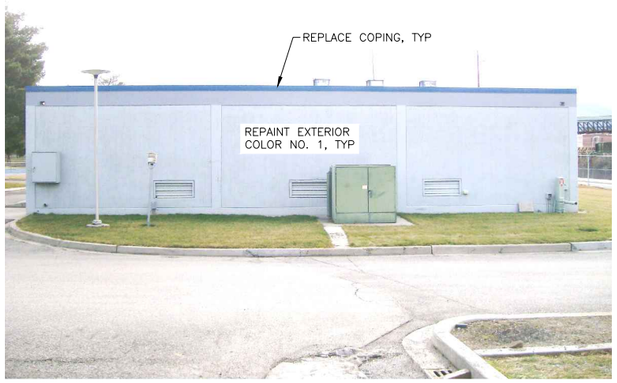
SHEET
000A-09



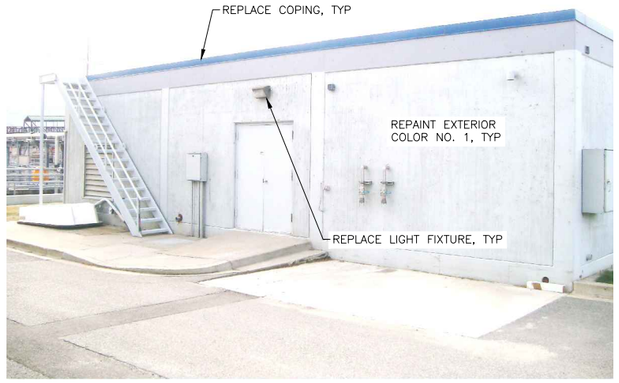
SOLIDS DIGESTER NO. 1 – SOUTHEAST
NOT TO SCALE

SOLIDS DIGESTER NO. 1 – WEST
NOT TO SCALE

SOLIDS HANDLING BUILDING – WEST
NOT TO SCALE



BLOWER BUILDING – NORTH
NOT TO SCALE



BLOWER BUILDING – EAST
NOT TO SCALE

BLOWER BUILDING – SOUTH
NOT TO SCALE

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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

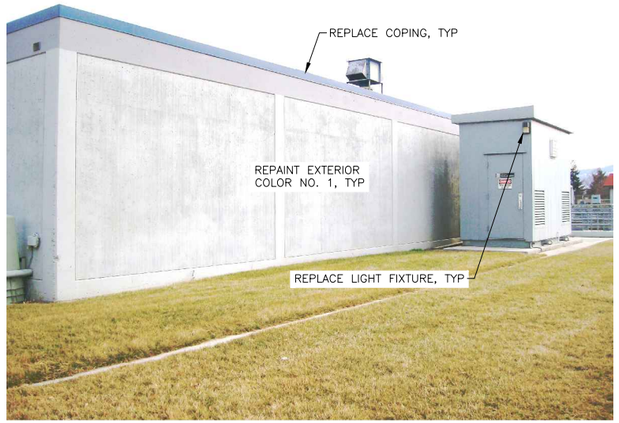
ARCHITECTURE
EXISTING BUILDING MODIFICATIONS 4

0 1" 2"

FILENAME	000A-10.dwg
SCALE	NOT TO SCALE

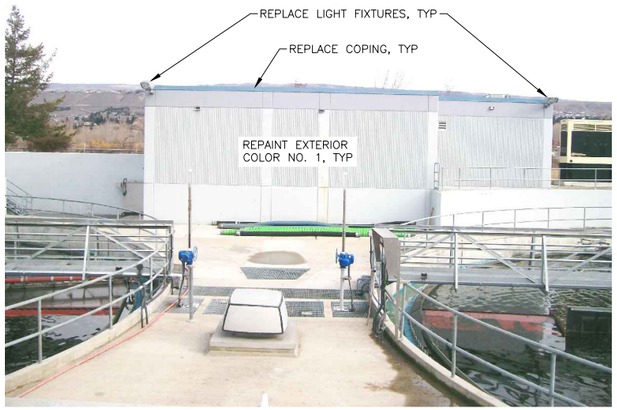
SHEET
000A-10

BLOWER BUILDING MCC ROOM – SOUTH
NOT TO SCALE



BLOWER BUILDING – WEST
NOT TO SCALE

BLOWER BUILDING MCC ROOM – NORTHWEST
NOT TO SCALE



UV BUILDING – WEST
NOT TO SCALE

UV BUILDING – SOUTH
NOT TO SCALE

CHLORINE BUILDING & SHED – NORTHWEST
NOT TO SCALE

UNDERGROUND SERVICE ALERT
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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

ARCHITECTURE
EXISTING BUILDING MODIFICATIONS 5

0 1" 2"

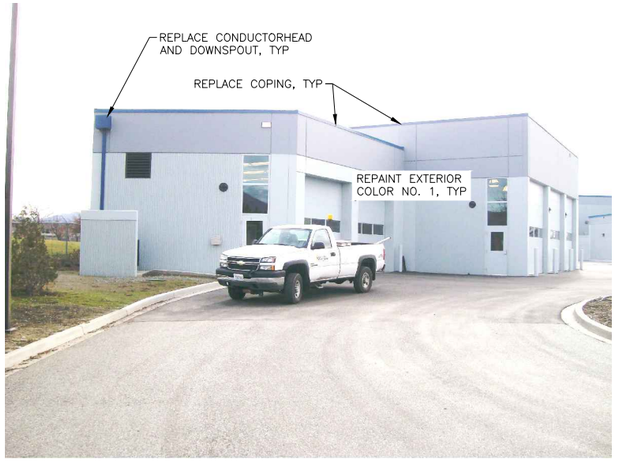
FILENAME	000A-11.dwg
SCALE	NOT TO SCALE

SHEET
000A-11

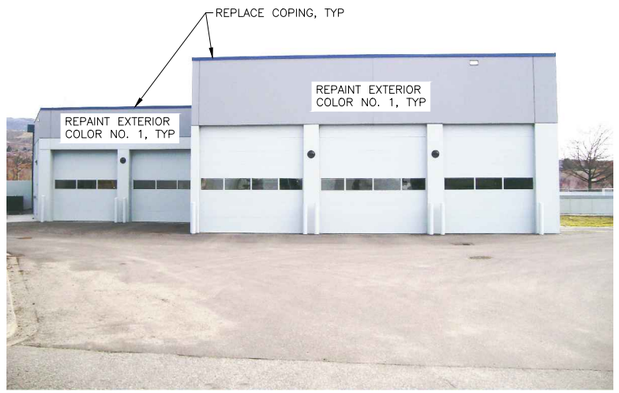
CHLORINE BUILDING & SHED – EAST
NOT TO SCALE

CHLORINE BUILDING & SHED – SOUTHWEST
NOT TO SCALE

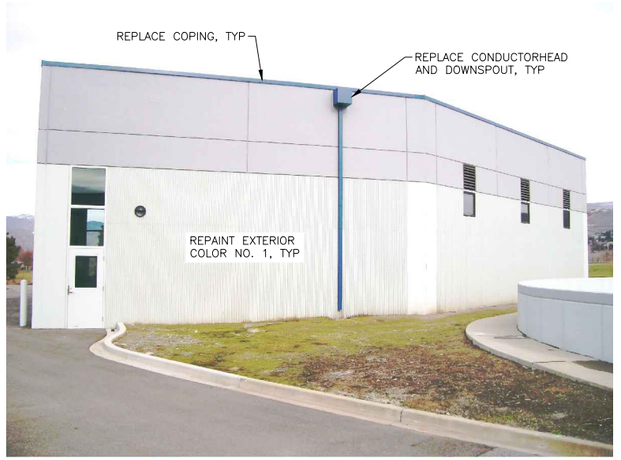
CHLORINE BUILDING & SHED – WEST
NOT TO SCALE



MAINTENANCE BUILDING – NORTH
NOT TO SCALE



MAINTENANCE BUILDING – EAST
NOT TO SCALE



MAINTENANCE BUILDING – SOUTH
NOT TO SCALE

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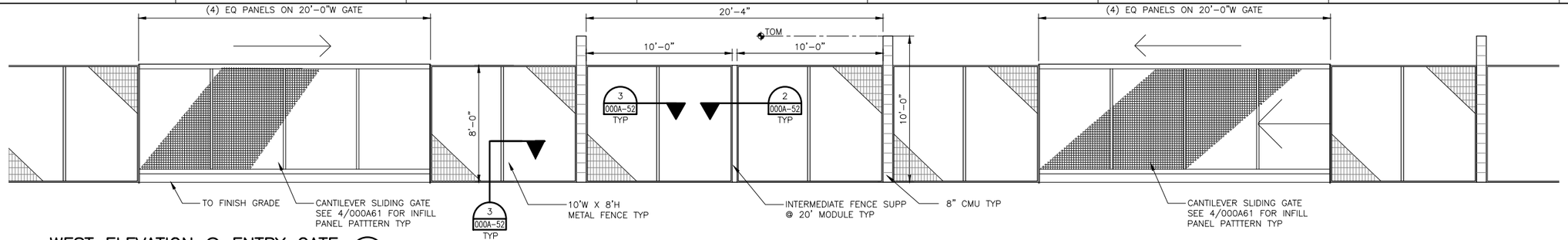
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

ARCHITECTURE
EXISTING BUILDING MODIFICATIONS 6

0 1" 2"

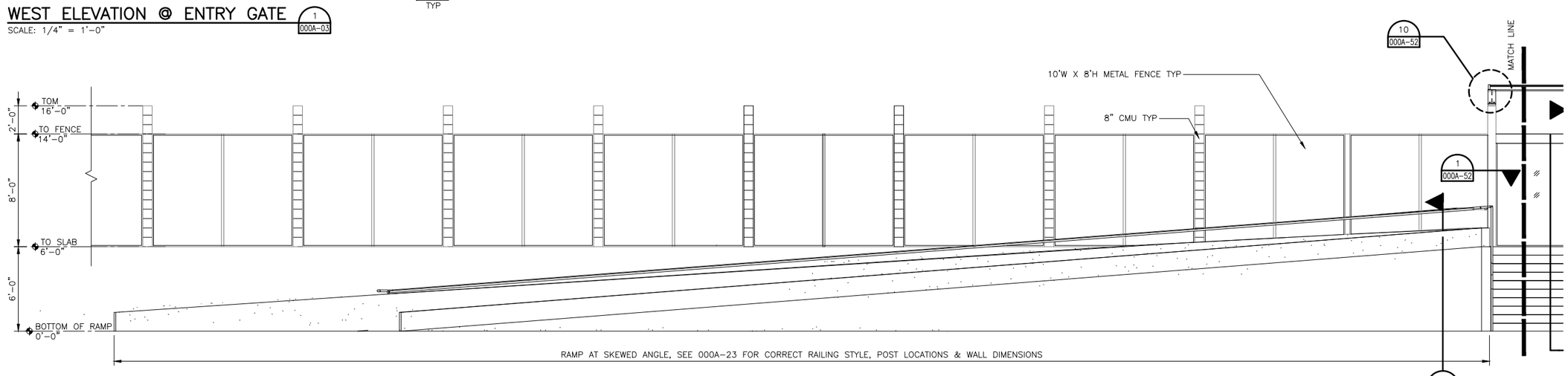
FILENAME	000A-12.dwg
SCALE	NOT TO SCALE

SHEET
000A-12



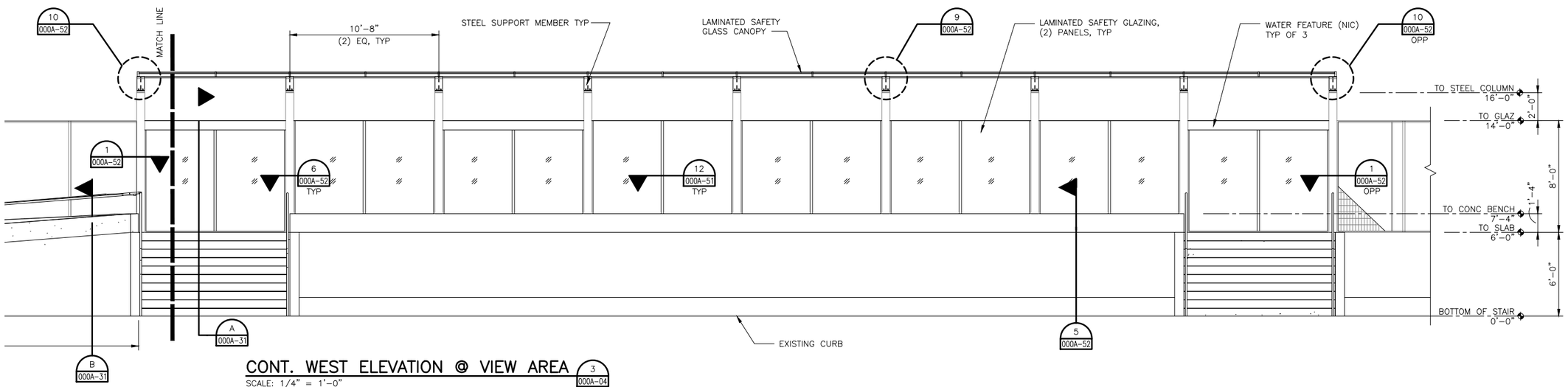
WEST ELEVATION @ ENTRY GATE (1 / 000A-03)

SCALE: 1/4" = 1'-0"



WEST ELEVATION @ VIEW AREA (2 / 000A-04)

SCALE: 1/4"=1'-0"



CONT. WEST ELEVATION @ VIEW AREA (3 / 000A-04)

SCALE: 1/4" = 1'-0"

UNDERGROUND SERVICE ALERT
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DRAWN	J. ZHAO
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City of Wenatchee

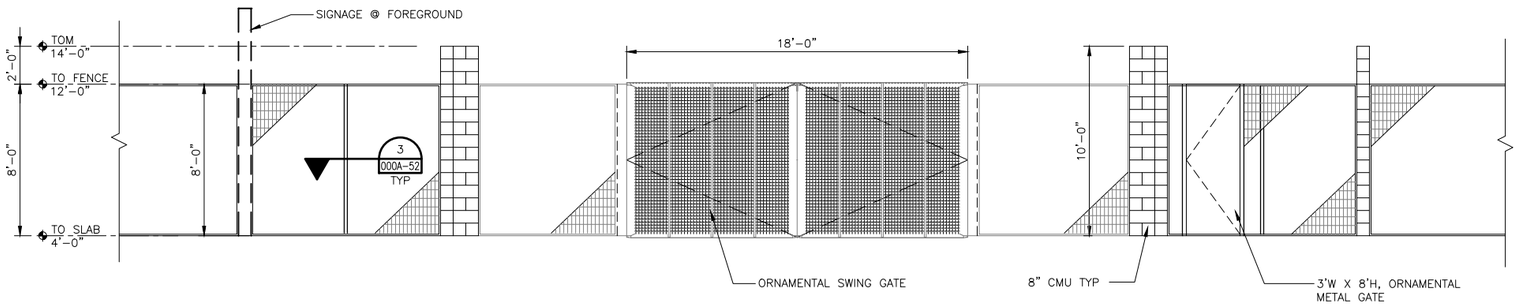
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
VIEW AREA ELEVATIONS 1

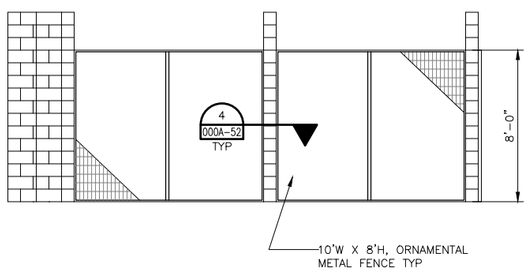
0 1" 2"

FILENAME	000A-21.dwg
SCALE	1/4" = 1'-0"

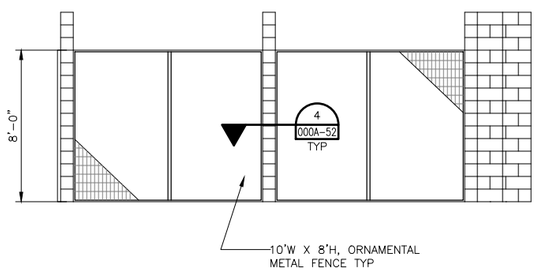
SHEET **000A-21**



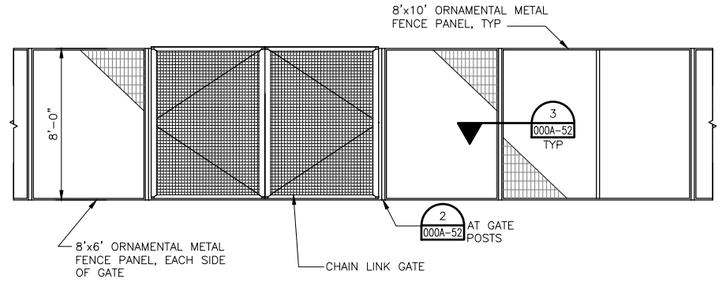
WEST ELEVATION @ MAIN ENTRY GATE (1 / 000A-03)
Scale: 1/4" = 1'-0"



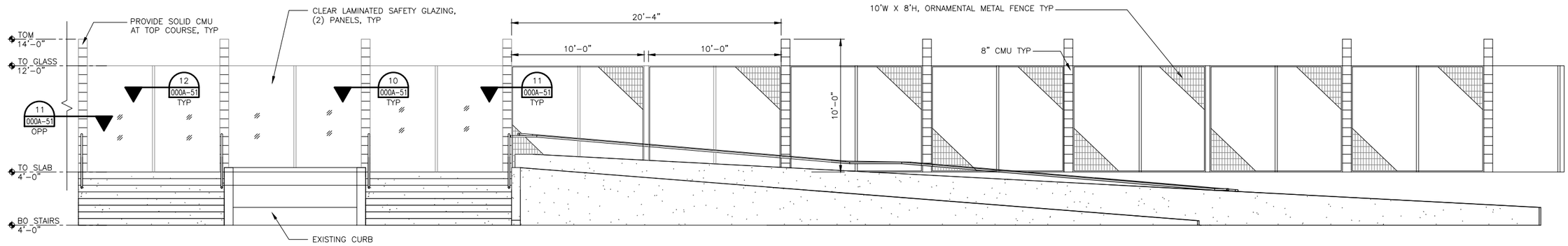
NORTH ELEVATION (2 / 000A-03)
SCALE: 1/4"=1'-0"



SOUTH ELEVATION (3 / 000A-03)
SCALE: 1/4"=1'-0"



SOUTH ELEVATION (4 / 000A-03)
SCALE: 1/4"=1'-0"



WEST ELEVATION @ MAIN ENTRY GATE (5 / 000A-02)
Scale: 1/4" = 1'-0"

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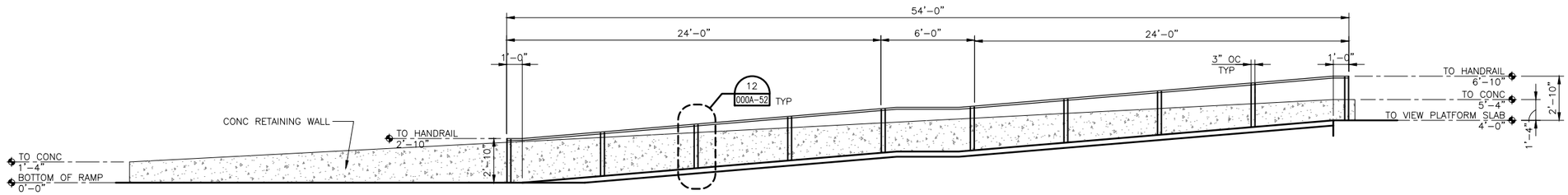
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE VIEW AREA ELEVATIONS 2

0 1" 2"

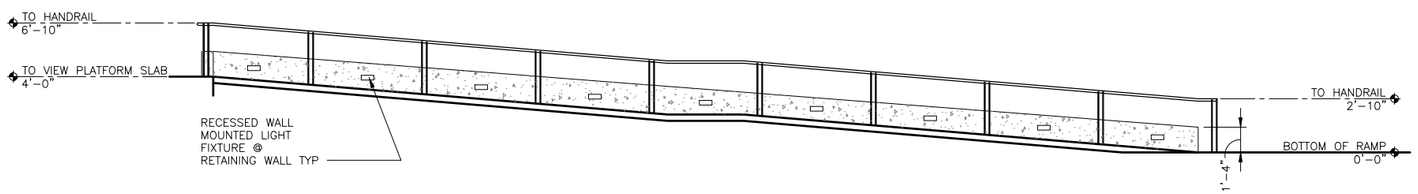
FILENAME	000A-22.dwg
SCALE	1/4" = 1'-0"

SHEET 000A-22



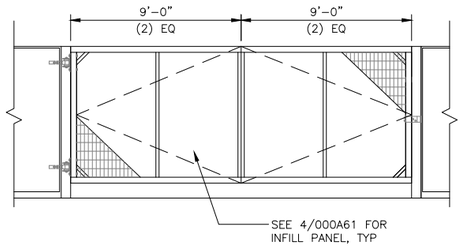
RAMP SECTION (1 / 000A-04)

SCALE: 1/4"=1'-0"



RAMP SECTION (2 / 000A-04)

SCALE: 1/4"=1'-0"



SWING GATE ELEVATION (3 / 000A-22)

SCALE: 1/4" = 1'-0"

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City of Wenatchee

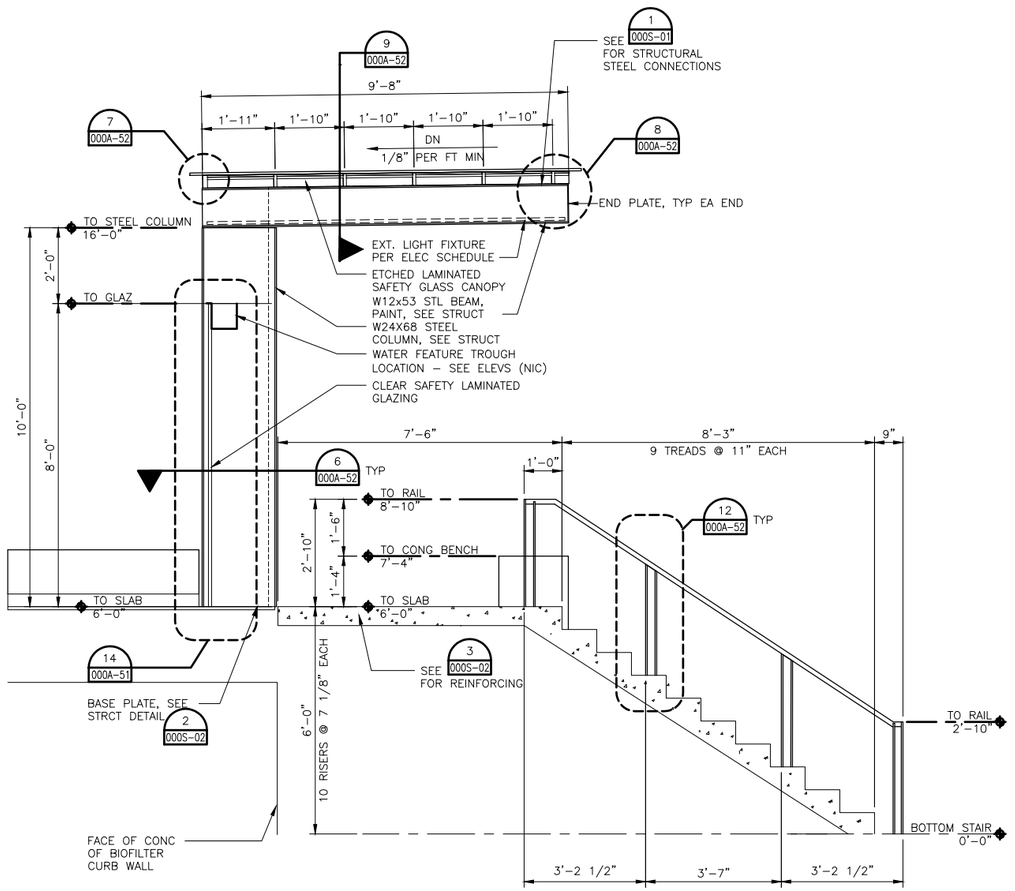
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
RAMP SECTIONS & GATE ELEVATIONS

0 1" 2"

FILENAME	000A-23.dwg
SCALE	1/4" = 1'-0"

SHEET **000A-23**

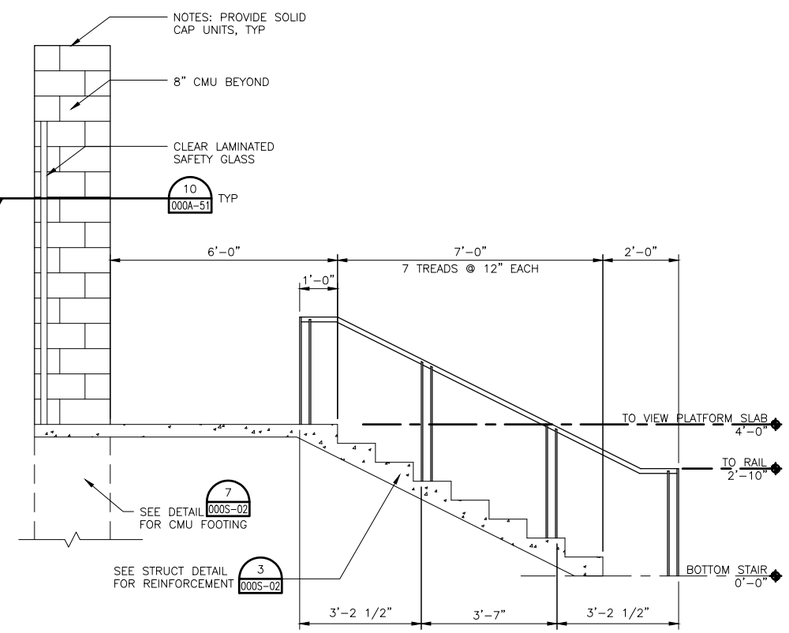


CROSS SECTION A
SCALE: 1/2"=1'-0"
000A-04

NOTE: PAINT ALL EXPOSED STEEL

GENERAL NOTES:

A. SEE 1/000S-01 FOR STRUCTURAL STEEL CONNECTIONS
B. PAINT ALL EXPOSED STEEL



CROSS SECTION C
SCALE: 1/2"=1'-0"
000A-05

UNDERGROUND SERVICE ALERT
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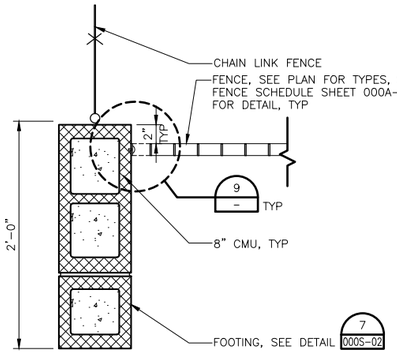
City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
VIEWING AREA SECTIONS

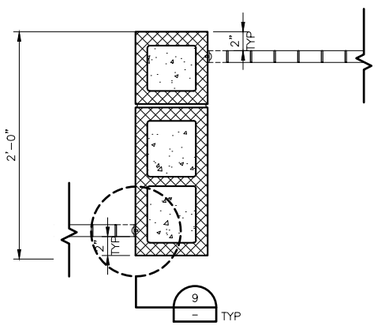
0 1" 2"

FILENAME	000A-31.dwg
SCALE	1/2" = 1'-0"

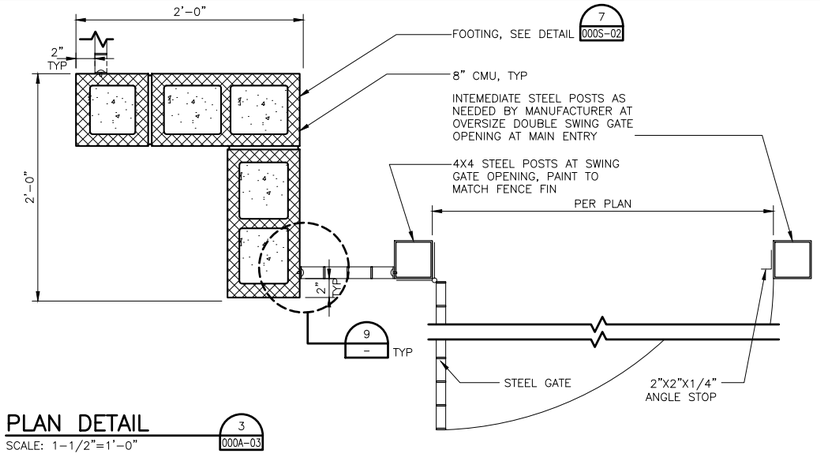
SHEET
000A-31



PLAN DETAIL — SCALE: 1-1/2"=1'-0" — 1 / 000A-01



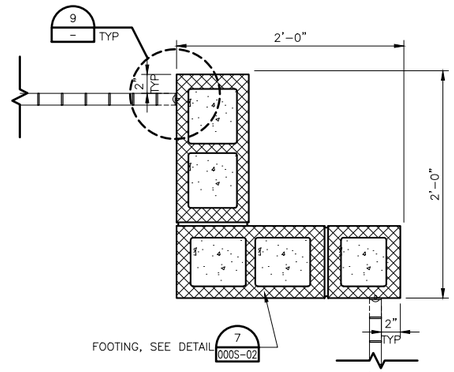
PLAN DETAIL — SCALE: 1-1/2"=1'-0" — 2 / 000A-03



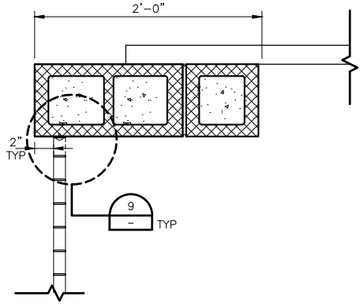
PLAN DETAIL — SCALE: 1-1/2"=1'-0" — 3 / 000A-03

GENERAL NOTES:

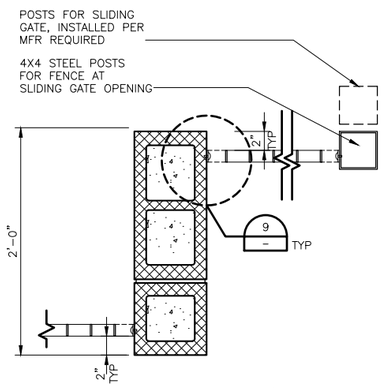
A. ALL EXPOSED CMU SURFACES ARE TO BE GROUNG FACE, COCOA COLOR – AS INDICATED IN SPECIFICATION 04220, SECTION 2.3



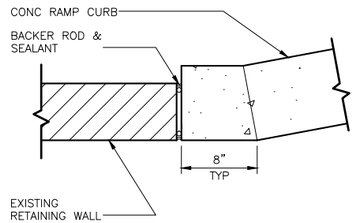
PLAN DETAIL — SCALE: 1-1/2"=1'-0" — 4 / 000A-01



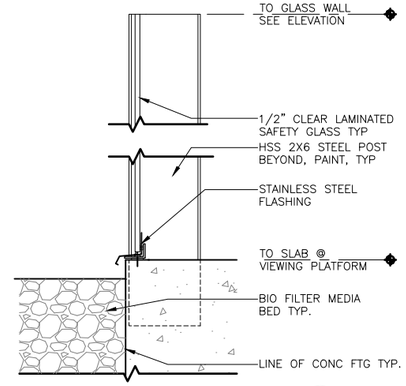
PLAN DETAIL — SCALE: 1-1/2"=1'-0" — 5 / 000A-03



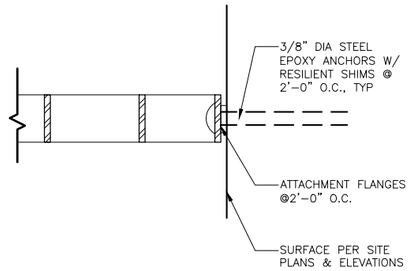
PLAN DETAIL — SCALE: 1-1/2"=1'-0" — 6 / 000A-03



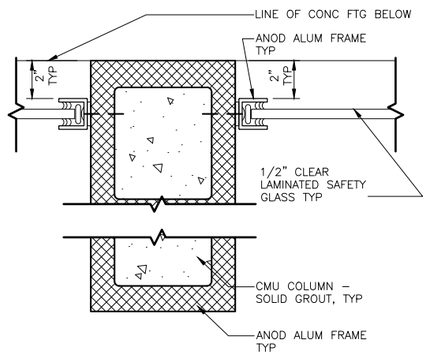
CURB DETAIL — SCALE: 1-1/2"=1'-0" — 7 / 000A-02



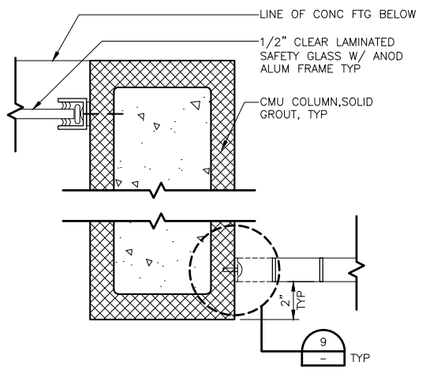
GLASS WALL DETAIL — SCALE: 1-1/2"=1'-0" — 8 / 000A-04



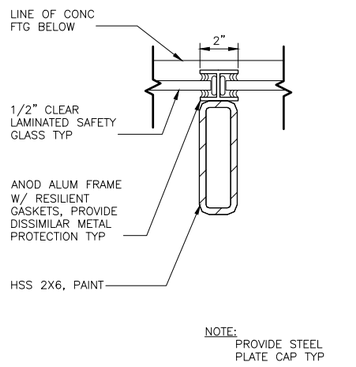
SCREEN DETAIL — SCALE: 6"=1'-0" — 9 / 000A-31



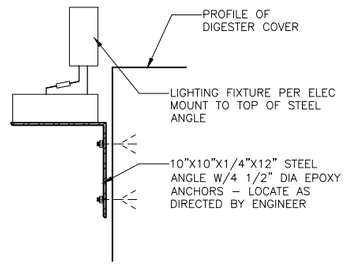
CMU COLUMN/GLASS — SCALE: 3"=1'-0" — 10 / 000A-03



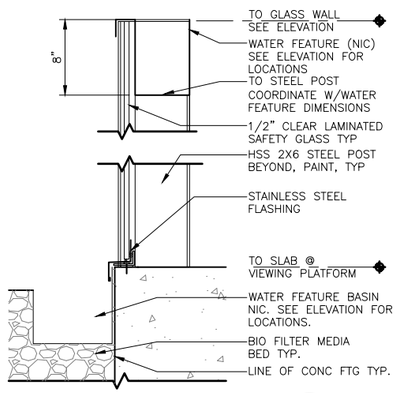
CMU COLUMN/FENCE — SCALE: 3"=1'-0" — 11 / 000A-03



TYP POST/GLASS @ MIDPT — SCALE: 3"=1'-0" — 12 / 000A-03



DIGESTER LIGHT FIXTURE BASE DETAIL — SCALE: 1-1/2"=1'-0" — 13 / 000A-XX



GLASS WALL DETAIL — SCALE: 1-1/2"=1'-0" — 14 / 000A-04

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0	NOV 2011	ISSUE FOR CONSTRUCTION SUBMITTAL

PROJECT MANAGER	A. MEILLEUR
DESIGNED	D. HOGAN
DRAWN	J. ZHAO
CHECKED	
PROJECT NUMBER	171097

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City of Wenatchee

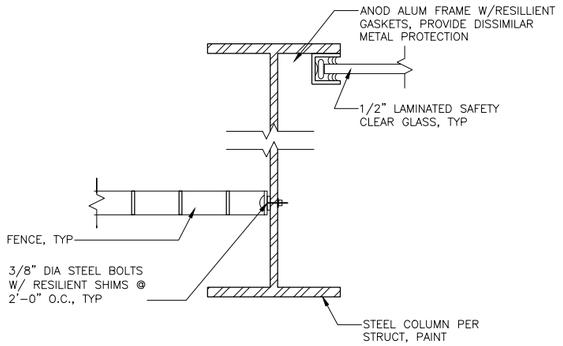
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE ARCHITECTURAL DETAILS 1

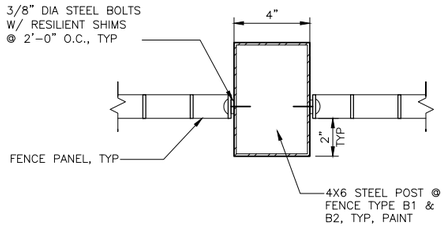
0 1" 2"

FILENAME	000A-51.dwg
SCALE	AS NOTED

SHEET **000A-51**

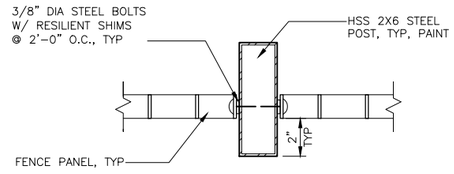


CANOPY COLUMN/FENCE (1 / 000A-04)
SCALE: 3"=1'-0"



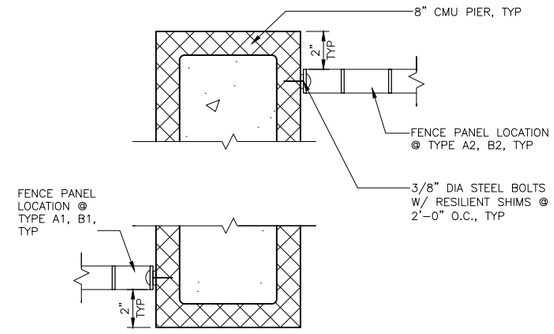
FENCE POST DETAIL (2 / 000A-61)
SCALE: 3"=1'-0"

NOTE: PROVIDE STEEL PL CAP, TYP

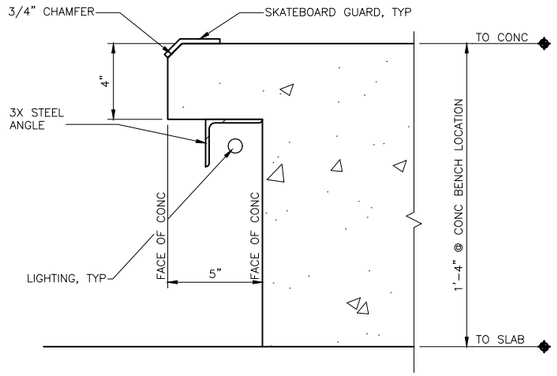


FENCE POST DETAIL (3 / 000A-61)
SCALE: 3"=1'-0"

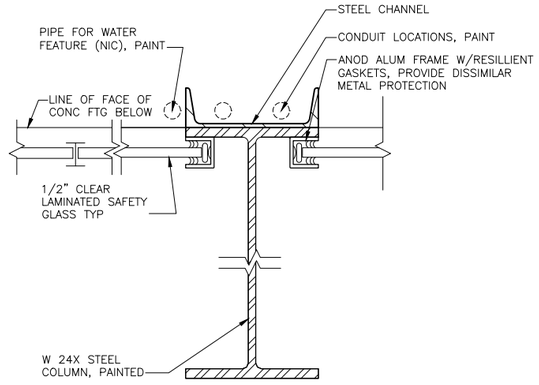
NOTE: PROVIDE STEEL PL CAP, TYP



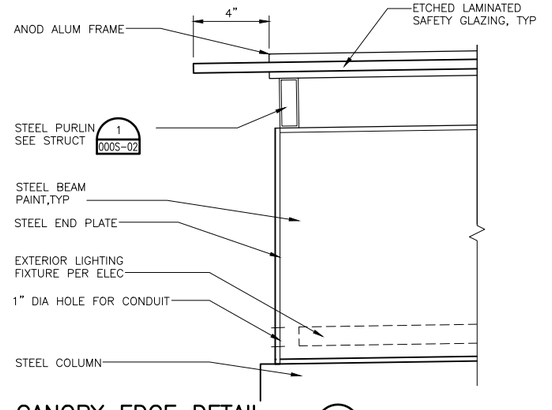
CMU FENCE DETAIL (4 / 000A-03)
SCALE: 3"=1'-0"



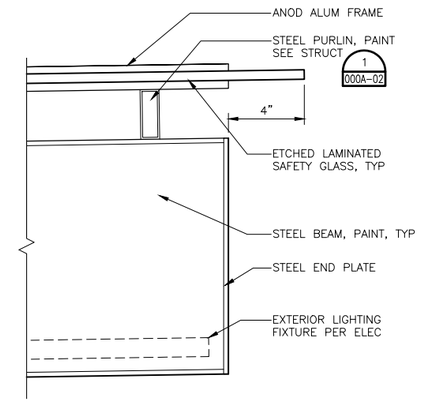
CONC BENCH DETAIL (5 / 000A-04)
SCALE: 3"=1'-0"



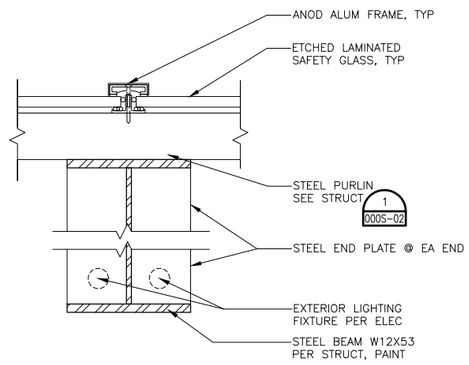
TYP CANOPY COLUMN DETAIL (6 / 000A-04)
SCALE: 3"=1'-0"



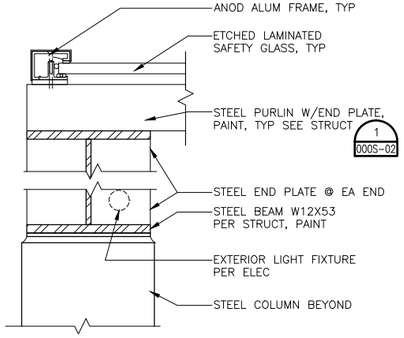
CANOPY EDGE DETAIL (7 / 000A-05)
SCALE: 3"=1'-0"



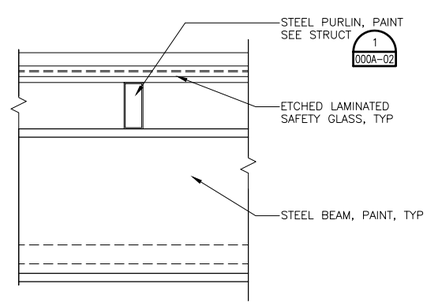
CANOPY EDGE DETAIL (8 / 000A-05)
SCALE: 3"=1'-0"



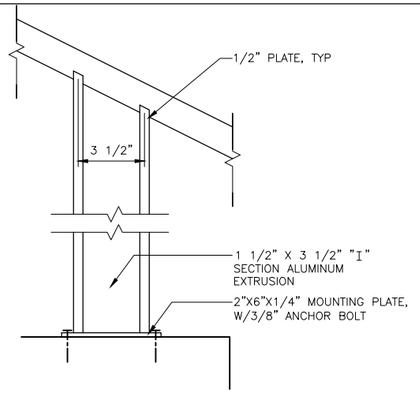
CANOPY BEAM DETAIL (9 / 000A-05)
SCALE: 3"=1'-0"



CANOPY DETAIL (10 / 000A-05)
SCALE: 3"=1'-0"



CANOPY PURLIN DETAIL (11 / 000A-05)
SCALE: 3"=1'-0"



RAILING DETAIL (12 / 000A-31)
SCALE: 3"=1'-0"

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DESIGNED	D. HOGAN
DRAWN	J. ZHAO
CHECKED	
PROJECT NUMBER	171097

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City of Wenatchee

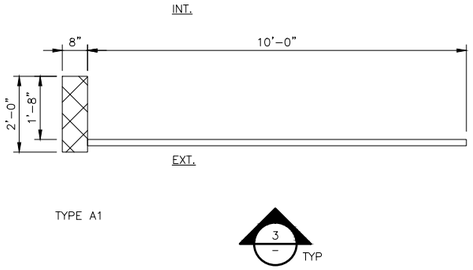
WASTE WATER TREATMENT PLANT IMPROVEMENTS

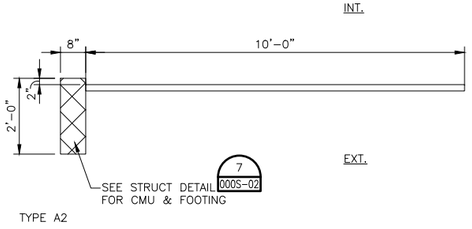
SITE ARCHITECTURAL DETAILS 2

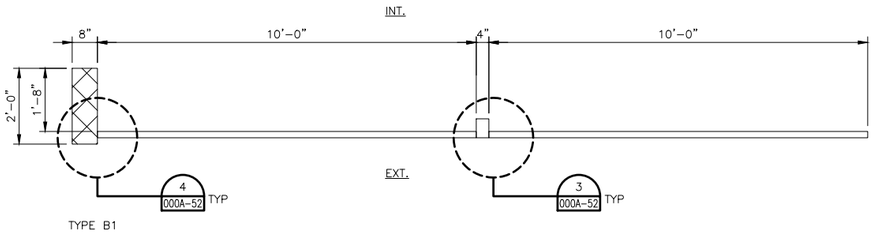
0 1" 2"

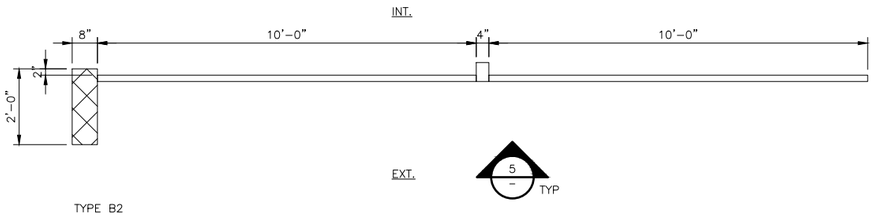
FILENAME	000A-52.dwg
SCALE	3"=1'-0"

SHEET **000A-52**



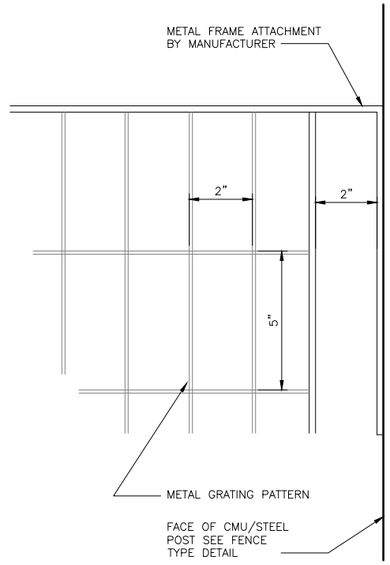


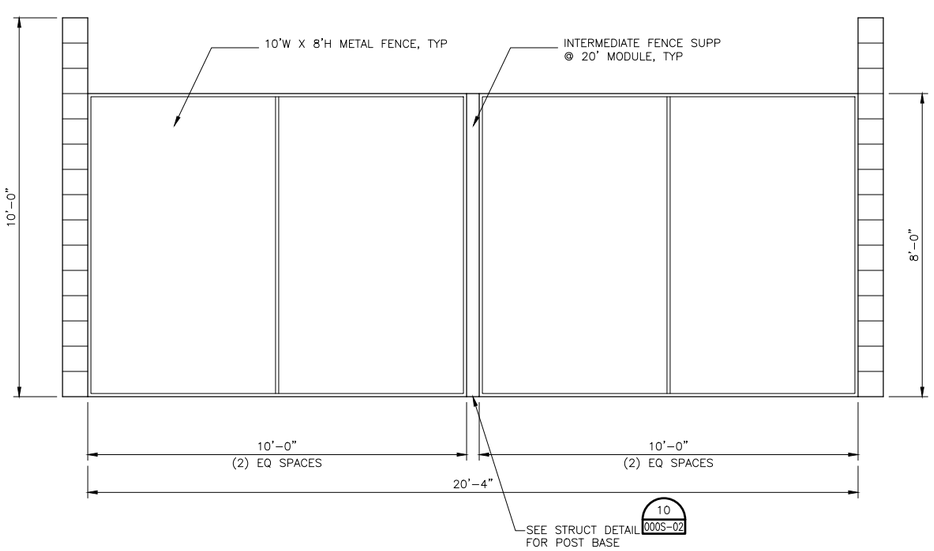




TYPE A FENCE PLAN
SCALE: 1/2"=1'-0"

TYPE B FENCE PLAN
SCALE: 1/2"=1'-0"





TYPE A FENCE ELEVATION
SCALE: 1/2"=1'-0"

FENCE INFILL PANEL PATTERN
SCALE: 1/2"=1'-0"

TYPE B FENCE ELEVATION
SCALE: 1/2"=1'-0"

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DRAWN	J. ZHAO
CHECKED	
PROJECT NUMBER	171097

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City of Wenatchee

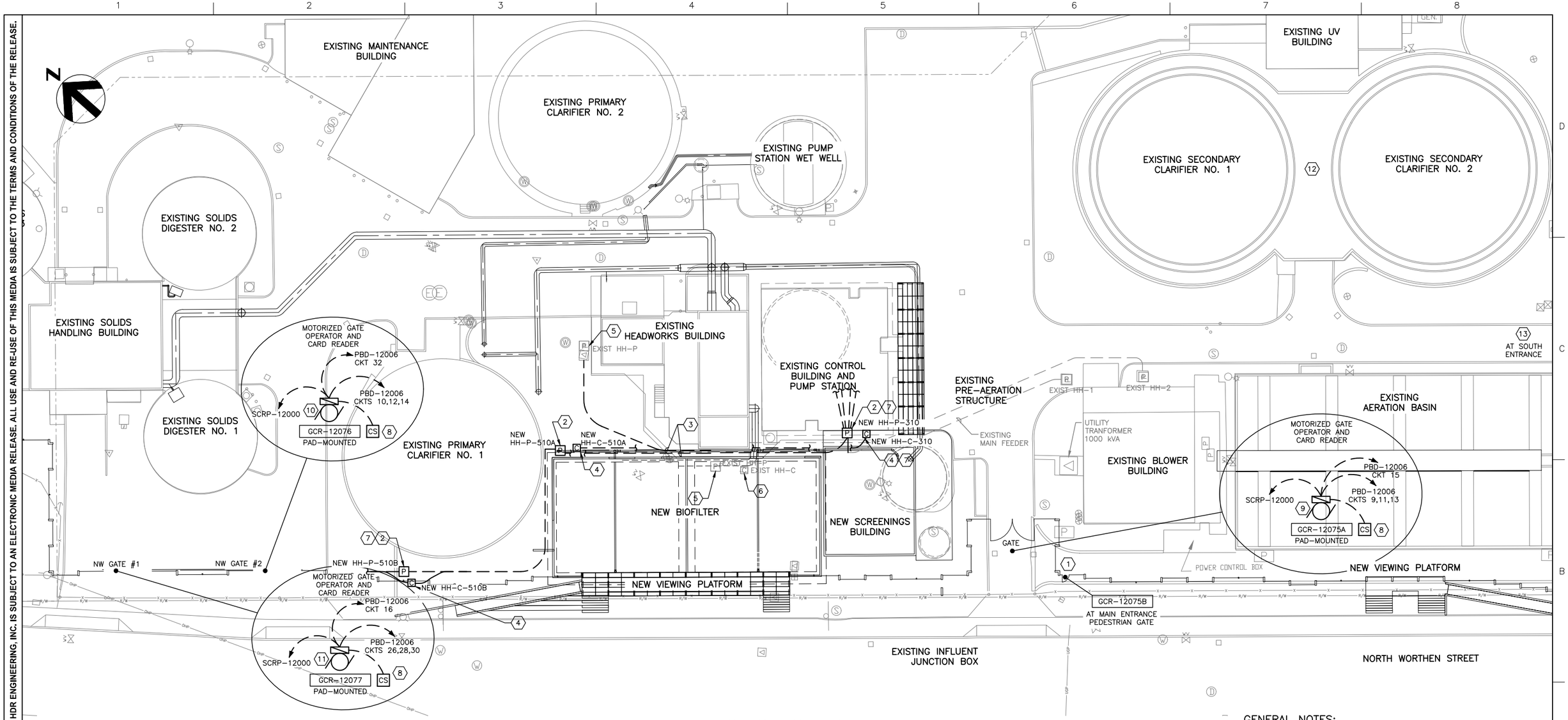
WASTE WATER TREATMENT PLANT IMPROVEMENTS

SITE
ARCHITECTURAL FENCING TYPES

0 1" 2"

FILENAME	000A-61.dwg
SCALE	1/2" = 1'-0"

SHEET
000A-61



ELECTRICAL SITE PLAN

1" = 20'

KEY NOTES:

1. MAIN ENTRANCE PEDESTRIAN GATE ELECTRICALLY OPERATED WITH CARD READER GCR-12075B.
2. PROVIDE NEW ELECTRICAL HANDHOLE 444 WITH DRAIN AS PER DETAIL 12 ON SHEET 00E-11.
3. NEW UNDERGROUND ELECTRICAL SHALL BE PER DETAIL 11 ON SHEET 00E-11.
4. PROVIDE NEW 17"W x 20"L x 12"D ELECTRICAL HANDHOLE FOR COMMUNICATION AND DC SIGNALS, WITH TRAFFIC RATED TOP.
5. EXISTING ELECTRICAL HANDHOLE TO BE DECOMMISSIONED AND REMOVED. PULL CONDUCTORS FROM CONDUITS TO BE ABANDONED DUE TO BIOFILTER BEDS CONSTRUCTION.
6. EXISTING UTILITY 17"W x 20"L x 12"D CONCRETE JUNCTION BOX TO BE DECOMMISSIONED AND REMOVED. PULL CONDUCTORS FROM CONDUITS TO BE ABANDONED DUE TO BIOFILTER BED CONSTRUCTION.
7. CONTRACTOR TO FIELD VERIFY LOCATION TO INTERCEPT AND CONNECT TO EXISTING UNDERGROUND ELECTRICAL. CONTRACTOR SHALL PROVIDE CONTINUOUS LENGTH WIRING AND CONNECT ENDS.
8. PROVIDE PAD-MOUNTED GATE CARD READER AND DOOR CONTROLLER TO MEET MOTORIZED GATE REQUIREMENTS. COORDINATE LOCATION OF CARD READER WITH OWNER. MOUNT READER TO ALLOW READING CARDS FROM A TRUCK AND ALLOW FULL MOTORIZED GATE OPERATION.
9. FURNISH AND INSTALL MOTORIZED GATE OPERATOR. PROVIDE ALL NECESSARY INTERFACE, INCLUDING INTERPOSING RELAYS, TO OPERATE GATE FROM GRC-12075.
10. FURNISH AND INSTALL MOTORIZED GATE OPERATOR. PROVIDE ALL NECESSARY INTERFACE, INCLUDING INTERPOSING RELAYS, TO OPERATE GATE FROM GCR-12076.
11. FURNISH AND INSTALL MOTORIZED GATE OPERATOR. PROVIDE ALL NECESSARY INTERFACE, INCLUDING INTERPOSING RELAYS, TO OPERATE GATE FROM GCR-12077.
12. NON-POTABLE WATER PUMPS NO. 1 AND NO. 2 TO BE REPLACED, REFER TO DETAIL 14, SHEET 00OE-11. PROVIDE VARIABLE FREQUENCY DRIVE FOR EACH PUMP. MCC 2E (ESSENTIAL LOADS) TO BE MODIFIED, REFER TO ELECTRICAL SHEETS. RE-USE CONDUITS FROM THIS MCC TO RAS PUMP ROOM.
13. SOUTH ENTRANCE PEDESTRIAN GATE ELECTRICALLY OPERATED WITH CARD READER GCR-12078.

GENERAL NOTES:

1. FOR EXISTING CONDITIONS, TO BE FIELD VERIFIED, REFER TO RECORD DRAWINGS:
   - 2006 DWG ELC-2006 "ELECTRICAL SITE PLAN".
   - 1992 AS-BUILT DWG E-2 "ELECTRICAL SITE PLAN".
   - 1973 DWG C7039-I SHEET 69 "ELECTRICAL SITE PLAN".
2. CONTRACTOR TO VERIFY THE LOCATION, RELOCATION, ABANDONMENT AND/OR TEMPORARY SUPPORT OF ALL ELECTRICAL, UNDERGROUND AND ABOVE GROUND, AFFECTED BY CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER ALL ELECTRICAL WORK TO GUARANTEE WASTEWATER TREATMENT PLANT CONTINUOUS OPERATION.
3. COORDINATE WITH CHELAN PUD ALL CONSTRUCTION WORK AFFECTING EXISTING ELECTRIC SERVICE ENTRANCE CONDUCTORS.
4. COORDINATE WITH QWEST ALL CONSTRUCTION WORK AFFECTING EXISTING TELEPHONE SERVICE AND/OR NEW REQUIREMENTS.

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DESIGNED	I. RINCON
DRAWN	P. McCLINTOCK
CHECKED	E. SWANSON
PROJECT NUMBER	171097

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City of Wenatchee
WASTE WATER TREATMENT PLANT IMPROVEMENTS

ELECTRICAL SITE PLAN

0 1" 2"

FILENAME	000E-01.dwg
SCALE	AS NOTED

SHEET 000E-01